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The Relationship between Underemployment and Job Attitudes of New Zealand Graduates

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Kara Cockroft

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ABSTRACT

Given the current economic climate marked with organizational restructurings, downsizing and streamlined global enterprises, more individuals are choosing to study at a tertiary level in order to secure and enhance their employment opportunities. The result is an increase in more highly educated workers trying to find jobs which utilize their skills and qualifications. When this is not achieved, an individual may perceive a discrepancy between their current job situation and their desired job situation, and feelings of ‘underemployment’ may result. A self-report questionnaire was completed by 568 alumni from the University of Waikato and Victoria University to determine the relationship between underemployment and individual and organizationally-relevant outcomes. The results revealed that graduates who perceived themselves to be underemployed reported lower levels of job satisfaction, stronger careerist attitudes (belief that one does not get ahead mainly on the basis on merit), lower life satisfaction, lower affective commitment, increased intention to quit, and increased job searching behaviour. Relative deprivation, defined as the perceived discrepancy between an individual’s current employment situation and the job situation they both desire and feel entitled to, was assessed to determine its mediating effects on underemployment and the predicted job outcomes. The analysis showed that relative deprivation mediated twenty three of the thirty five mediation relationships that were tested, indicating that relative deprivation plays a significant role in explaining how negative job attitudes arise from feelings of underemployment. The findings from this research have important implications for the way in which individuals and organizations can manage levels of underemployment and the resulting job attitudes. This may include assessing the nature of work and an individual’s responsibilities by allowing for more job scope or ‘job crafting’ – shaping the task boundaries of the job, within the context of defined jobs, to better suit individuals expectations for satisfactory employment.

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CHAPTER 1

INTRODUCTION

In the past two decades, much of the research attention of organizational scholars has focused on the negative psychological effects of *unemployment* (e.g., Flynn, 1993; Kasl, Rodriguez, & Lasch, 1998). In comparison, relatively little is known about the effects of being *underemployed* – that is, holding a job that is in some way inferior or of lower quality, relative to some standard of comparison (i.e. the employment experiences of others, or an individual's own past education and work history) (Feldman, 1996). The organizational sciences tend to define underemployment in terms of either: skill utilization and job mismatch, loss of wages, contingent working arrangements (i.e. part-time, temporary employment), and hierarchical level in the organization (Feldman, Leana, & Bolino, 2002). These different conceptualizations will be discussed in more detail later in this chapter.

What little research that has been done on underemployment has focused more on laid-off workers who have become underemployed in their 'replacement jobs' (Bolino & Feldman, 2000; 1995; Leana & Feldman, 1995; Mckee-Ryan, Virick, Prussia, Harvey, & Lilly, 2009). This paper looks at the largely overlooked problem of underemployment amongst university graduates in New Zealand, and the effects this has on their attitudes towards their careers and lives in general.

Estimates of underemployment among graduates of the American labour force have ranged from 12 to 36 percent (Khan & Morrow, 1991; Mottaz, 1986; Sargent, 1986), with these rates also comparable in the United Kingdom and Australia (Feather & O'Brian, 1986a; 1986b; Winefield, Tiggemann, & Goldney, 1991). While underemployment is not a new phenomenon, it is becoming far more prevalent today given the current economic climate marked with restructurings, downsizing and streamlined global enterprises, and people choosing to study for longer in order to improve their employment opportunities. Yet for more and more young adults, graduation from tertiary study is leading to neither full-time employment in high-skilled positions nor unemployment, but

rather to a third outcome: employment in jobs which do not require as much education as they possess, often in positions which are temporary or part-time in nature, and which offer little potential for career advancement (Feldman & Turnley, 1995).

According to Asplund and Lilja (2000), the problem of underemployment stems from the significant investments in education by industrialized nations over the past decades and the inability of market economies to absorb the steady increase in supply of well-educated workers (Coulon, 2002). Discrepancies between supply and demand in any market driven economy are expected. However, in many OECD countries, this particular mismatch is proving persistent, creating a “graduatization of many jobs previously filled by non-graduates”(Doherty, Viney, & Adamson, 1997, p. 173). As more graduates flood the market, employers who are able to obtain skills at an educational level previously unsought, raise their qualification requirements when recruiting, irrespective of any change in the skills required to perform the job (Coulon, 2002). Therefore, while the job applicant may need the appropriate level of qualification (e.g. Bachelors degree) to compete for and obtain the position, there may be little or no use for their higher level of qualification once they are employed.

Graduate employability is concerned with enhancing the capacity of an individual student to obtain employment (Nabi, 2003). It is not simply about measuring graduate employment rates or focusing on employability as an institutional achievement, but also about graduates being better equipped and prepared for employment (Nabi, 2003). The implication is that individual students should acquire employment appropriate to their qualification and which makes appropriate use of their skills and knowledge. This is clearly beneficial to both graduates and employers as it provides a better match between the individual’s degree, opportunity to use and develop skills, productivity and career experiences (Nabi, 2003). On this basis, graduates can be considered to be in jobs for which their degree is required (hereafter referred to as “appropriately employed”) or not (hereafter referred to as “underemployed”).

Despite these findings however, there is a scarcity of theoretically-based research examining the effects of other career experiences such as job, career and

life satisfaction amongst underemployed graduates (Nabi, 2003) and in particular using a New Zealand sample. Thus there is need to investigate whether an education-jobs gap exists in New Zealand and to what extent educational attainment is resulting in satisfactory employment outcomes for graduates. Assessing the quality of graduate employment is important because while New Zealand graduates may not be unemployed, they may very well be underemployed (Coulon, 2002).

The present study builds upon previous underemployment research in three ways. First, it systematically examines the effects of underemployment on the job attitudes and work attachment of graduates in New Zealand. Various studies of underemployment suggest that graduates who perceive themselves to be underemployed experience more negative consequences with their job, which in turn can affect their attitudes towards their work and employers, they invest less energy in their new jobs and are more likely to keep searching for different jobs (Borgen, Amundson, & Harder, 1988; Feldman et al., 2002; Feldman & Turnley, 1995; Nabi, 2003). In fact, in some research, the negative effects of underemployment have been found to be more harmful to an individual's psychological well-being than unemployment itself (Leana & Feldman, 1995; O'Brien, 1986)

Second, the present study examines relative deprivation as a potential mechanism for understanding how underemployment could lead to negative job attitudes. Although underemployment has often been found to be negatively correlated with various job outcomes, the underlying reasons for these relationships have not been fully explored. Based on findings from previous research by Feldman, Leana and Bolino (2002), which looked at the effects of relative deprivation on the relationship between underemployment and important job outcomes, I suggest that underemployment may lead to negative job and career attitudes because graduates both desire and feel entitled to have jobs that utilize their education and skills. In turn, this desire for, and sense of entitlement to better jobs, creates a sense of discrepancy, which may then influence an individual's attitudes towards their job (Crosby, 1976; Martin, 1981).

Thirdly, this research uses a sample of university graduates living in New Zealand, and who have completed their qualification in the last five years. As previously mentioned, most of the previous research on underemployment has focused on laid off workers in America who have become underemployed in their replacement jobs (Feldman, 1992). There has been much less research done on the effects of underemployment on university graduates, with even less using a New Zealand sample. Therefore the present study allows for a more thorough investigation into the effects of underemployment on recent university graduates in New Zealand.

History of Underemployment

While definitions of underemployment vary, both between and within academic disciplines, they all share two key elements. According to Feldman (1996), underemployment is firstly defined as an inferior, lesser, or lower quality type of employment. In addition, underemployment is also defined relative to some standard of comparison. In some cases, underemployment is defined relative to the employment experiences of others with a similar educational background or work history, and in other cases underemployment is defined relative to the individual's own past education or work history depending on the type of sample used (Feldman, 1996). In the organizational sciences in particular, several conceptualizations of underemployment have received the most attention. Table 1 suggests that there are five main dimensions of underemployment. Each of these dimensions is discussed in detail below.

Table 1: Dimensions of Underemployment

1.	Person earning wages 20% or less than in the previous job (For new graduates, wages 20% or less than average or graduating cohort in same major or occupational track).
2.	Person possesses more formal education than the job requires.
3.	Person involuntarily employed in field outside area of formal education.
4.	Person possesses higher-level work skills and more extensive work experience than the job requires.
5.	Person involuntarily engaged in part-time, temporary, or intermittent employment.

The first dimension of underemployment is concerned with wages. Consistent with previous research on underemployment (Rosen, 1987; Zvonkovic, 1988), an individual is classified as being underemployed if their current earnings are at least 20% less than earnings from the previous job. For recent university graduates (in some cases those just entering the workforce), the comparison with a previous job may not always be available. In these circumstances, it has been proposed that underemployment would exist if a graduates wages are at least 20% less than the average wages received by other new graduates with the same educational background and occupational track, or by subjective perceptions of what these individuals feel they should be earning when compared to a referent other with a similar educational background and career choice (Feldman, 1996). In much of the underemployment research then, income is a critical element in defining underemployment.

The second and third dimensions of underemployment concern skill utilization and employment mismatch with education and training. For instance, in work on teenage school leavers (Feather & O'Brian, 1986a; Winefield et al., 1991) and college graduates in Australia (Feldman & Turnley, 1995), researchers have focused on the extent to which individuals have jobs which do not fully utilize the skills and abilities learnt in school or university. Burris (1983a) asked subjects to self report whether or not they felt 'overeducated for their jobs', while Feldman and Doerpinghaus (1992) asked individuals to report whether their jobs could be

performed adequately by people who were less qualified and had less work experience than themselves. While individuals can be expected to change their career interests over time, for new college graduates to take on jobs that are totally unrelated to their education would represent underemployment (Feldman & Turnley, 1995).

Possessing more formal education than a job requires, is consistent with previous conceptualizations of underemployment by economists, sociologists, psychologists, and organizational behaviour researchers (Feldman, 1996). Employment mismatch however, captures a somewhat different aspect of the phenomenon in that education itself is not solely indicative of underemployment, but also whether an individual is involuntarily working in a field outside their area of specialization. For example, an engineer with a master's degree in engineering, unable to find suitable employment in engineering, may obtain a sales management position which also requires a master's degree. For an individual with a master's degree in marketing, this position might be considered satisfactory employment; for an engineer moving into general management, this position might also be considered satisfactory employment. However, for an engineer desiring to continue his career in engineering, the sales management job psychologically represents underemployment, despite the high level of formal education it requires.

The fourth dimension is similar to the second dimension, but instead focuses on having an excess of higher level work skills and more work experience than a job requires. Most of the previous research on underemployment has tended to focus on formal education requirements of a job (Feldman, 1996). However, individuals can accrue a large amount of skills and experience through years of service within an organization or occupation which may or may not be utilized appropriately (Feldman, 1996). This, however, does not apply to recent university graduates who would not have had a long working history and therefore will not be a focus of this study.

The fifth dimension of underemployment is concerned with the type of employment arrangement and an individual is working in. Previous research has often used contingent employment (part-time, temporary jobs) or hierarchical

level of the new position (i.e. when an individual gets laid off from a permanent full-time job, and find themselves working in a temporary part-time position) as an indicator of underemployment. For example, Tipps and Gordon (1985) included in their underemployed category those individuals who had experienced intermittent employment after having been continuously and regularly employed during the previous five year period. More recently, Maynard, Joseph and Maynard (2006) found that for contingent work to represent underemployment, an individual needs to have expressed a preference for full-time work.

Involuntary part-time, temporary, or intermittent employment, involves the concept of “voluntariness”. The logic underlying this notion is based on two assumptions: (a) virtually all employees want to work in full-time, permanent jobs, and (b) part-time and temporary jobs inherently require fewer skills (Feldman, 1996). However, intermittent employment can also be voluntary, as the flexibility it can offer suits some people more than others. Thus, I suggest here that underemployment occurs with intermittent employment only when an individual wants to be working in a full time job and have been unable to find one. It is in these cases that individuals experience the sense of deprivation most associated with underemployment (Feldman, 1996).

In addition, Feldman, Leana, and Turnley contend that researchers who study underemployment also believe that the construct is based on both objective experiences and subjective interpretations of those experiences (1997). Some dimensions of underemployment (such as wages, and amount of formal education relative to job requirements) can be “objectively” determined with reasonable accuracy from archival data (Feldman, 1996). For example, in 1975, Quinn and Mandilovitch (as cited in Feldman, 1996) used archival data to determine underemployment by comparing an individual’s formal education to the number of years of education required by the job, the average number of years of education others in the same line of work possessed, and the average number of years of education others in the individual’s work group possessed. Adopting a similar approach, Khan and Morrow (1991) used a discrepancy measure of underemployment, termed relative education, which measured educational attainment beyond that necessary to satisfy minimum qualifications for the job held.

Objective job characteristics, however, may not fully explain differential outcomes for workers in unsatisfactory employment. An employee who appears to be underemployed on paper may not perceive themselves to be underemployed. Workers may also experience subjective underemployment when they evaluate their jobs relative to their own internal standards and expectations (Mckee-Ryan et al., 2009). For instance, in a study of male college graduates from Vancouver (Canada), Borgen, Amundson and Harder (1988) interviewed participants and asked questions such as “could you please tell me when it was that you first became aware that you were underemployed?” (p.150). Burris (1983a) used a similar approach by asking her sample of clerical workers whether or not they felt “overeducated (or overqualified) for their jobs”(p.98). Feldman and his colleagues used self-report items to measure underemployment among contingent workers (Feldman & Doerpinghaus, 1992; Feldman, Doerpinghaus, & Turnley, 1994). In these two studies, part-time and temporary workers were asked whether their jobs utilized their previous education and work experiences, and whether people with considerably less education could satisfactorily perform the same job.

Research among social psychologists and organizational behaviour researchers has tended to give greater weight to subjective measures to examine the effects of underemployment (Feldman, 1996). The perceived advantages of using self-report indicators are (1) they offer insight into how workers evaluate their jobs relative to their own internal standards and expectations, (2) they are more useful in predicting employee attitudes, and (3) they have the benefit of being able to capture multiple aspects of an individual’s work situation at one time (Mckee-Ryan et al., 2009). This study also focuses on the subjective interpretations of underemployment in graduates to determine job outcomes.

Consequences of Underemployment

Over the past decade, there has been considerable research on the impact of underemployment on the job attitudes of employees. In this section, I review the research to date on the negative effects of underemployment and outline the hypotheses I tested in the present study. The theoretical model which outlines the proposed relationships between underemployment and job attitudes is presented in Figure 1.

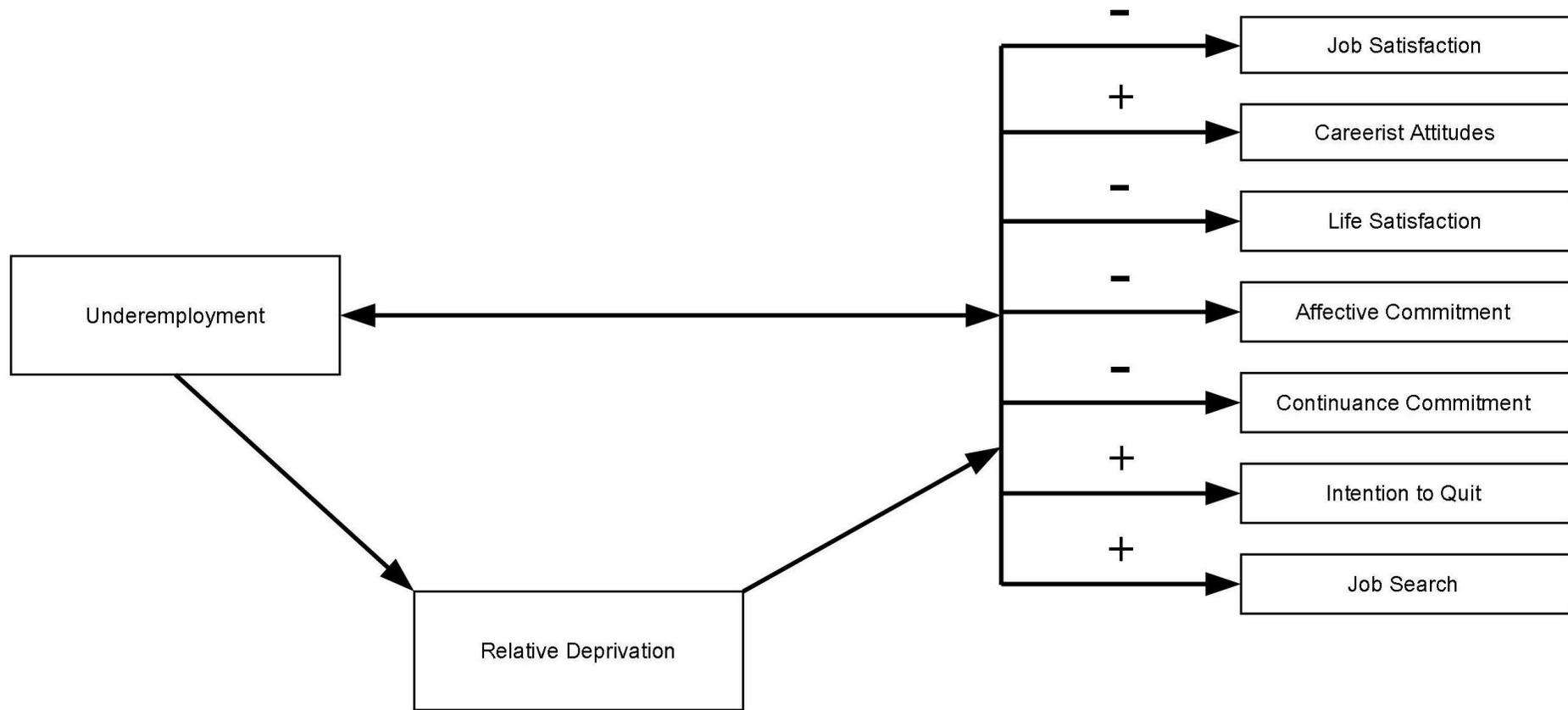


Figure 1: Diagrammatic representation of the research variables and the proposed hypothesised relationships

Job Satisfaction

The relationship between underemployment and job satisfaction has captured much research attention over the years. Job satisfaction, as defined by Spector (2008), is an attitudinal variable which reflects how people feel about their jobs overall as well as various aspects of a job. In two studies by Johnson and Johnson (2000a, 2000b), job satisfaction was conceived as the response of an individual to the conditions of work, as an individual's perceptions of various aspects of their job are shaped by different interpretations of objective differences in work conditions. From this view, the job setting is viewed as composed of different constituent facets with which an individual may either be satisfied or dissatisfied. For example, workers may indicate that they are satisfied with their salary but dissatisfied with the quality of supervision or the hours they work (Johnson & Johnson, 2000b).

A number of studies have evaluated the relationship between underemployment and job satisfaction, by equating underemployment with educational attainment and skill utilization (Bolino & Feldman, 2000; Burris, 1983b; Feldman & Turnley, 1995; Khan & Morrow, 1991; Nabi, 2003; O'Brien, 1986). The logic behind these studies is that higher education raises workers' expectations for more challenging and interesting work, and discontent can lead to a decline in worker productivity, and in turn, job dissatisfaction (Nabi, 2003). This is also consistent with theoretical notions of motivation that suggest that skill utilization contributes to positive outcomes like work effectiveness and positive psychological well-being, including job satisfaction (Nabi, 2003). Thus, a lack of opportunity to use and develop skills in a job can lead to decreased satisfaction.

Other studies have also found a negative relationship between job satisfaction and (a) perceptions of underemployment (Solmon, Kent, Ochsner, & Hurwicz, 1981), (b) perceived or actual mismatch between education level and the position requirements of the job (Burris, 1983a, 1983b; Saks & Ashforth, 1997), (c) employment outside one's field (Feldman & Turnley, 1995), (d) holding a temporary or part-time position, rather than permanent or full-time work (Feldman & Turnley, 1995), and (e) the degree of pay difference between an employee's previous and current job (Feldman et al., 2002).

The negative association between underemployment and job satisfaction can be traced to both the absolute and relative amount of rewards an employee receives (Feldman, 1996). Underemployed workers may receive fewer extrinsic and intrinsic rewards from their jobs in terms of salary, and feelings of accomplishment compared to “satisfactorily employed” workers (Feldman, 1996). Moreover, underemployed workers are more likely to experience job dissatisfaction because of the greater discrepancy between the rewards they receive and the rewards they expect to receive (Rousseau, 1990). Based on these results, I hypothesized that:

Hypothesis 1: Underemployment will be negatively related to job satisfaction.

Careerist Attitudes

Lack of opportunity for skill use may not only reduce job-specific well-being (job satisfaction) but may also extend to the wider career as a whole (of which the present job is only one part) (Nabi, 2003). Previous research has found that individuals who are underemployed often lose interest in and develop negative attitudes towards their careers more generally (Feldman & Leana, 2000; Feldman et al., 2002; Feldman & Turnley, 1995). Research by Rousseau (1990) is of the belief that the negative relationship between underemployment and an individual’s career is the result of a violation between the psychological contract of the worker and their organization. For recent graduates in particular, underemployment represents a violation of expectations. For example, university graduates often expect, perhaps naively, to find challenging work that utilizes and extends their existing knowledge. As a result of these unfilled expectations, university graduates are likely to decrease their contributions to their employers and feel less obligated to perform at high levels (Robinson, Kraatz, & Rousseau, 1994).

Moreover, underemployment has been found to be associated with more ‘careerist activity’ (Feldman, 1996), which means attempts to pursue career advancement through non-performance based means (e.g. manipulation, interpersonal behaviour, image management) rather than on merit alone (Feldman & Weitz, 1991; Rousseau, 1990). According to (Feldman & Weitz, 1991), a

careerist orientation to work incorporates the following seven beliefs about career advancement:

1. It is difficult to advance in organizations through merit alone.
2. It is often necessary to use social relationships with superiors, co-workers, and friends to get ahead.
3. It is important to cultivate the appearance of being successful; the appearance of being successful can be as instrumental in terms of advancement as competence.
4. It is sometimes necessary to engage in deceptive behaviour to get promotions to which one feels entitled.
5. It is important to recognize that, in the long run, the individual's career goals will be inconsistent with the interests of the organization, therefore; ultimately, it is each person for himself/herself.
6. Loyalty to an employer is unlikely to be rewarded.
7. In order to get ahead, it is sometimes necessary to take actions that promote personal advancement rather than those that promote the company's best interests.

When individuals are frustrated in obtaining jobs which fully utilize their skills, they often become cynical about the relationship between hard work and employment success, and instead believe that the way to succeed in organizations has little to do with objective performance indicators and has much more to do with networking, self-presentation strategies, and impression management (Feldman, 1996). For instance, Feldman and Weitz (1991) found that undergraduate students with low GPA's (grade point average) and poor prospects for employment were more likely to express careerist attitudes towards their work and to engage in more careerist behaviour. Rousseau (1990) also found evidence in her study of recent MBA graduates, of a link between broken psychological contracts and careerist behaviour. Research on the effects of underemployment among recent business graduates, by Feldman and Turnley (1995), found a

significant link between their measures of underemployment (need a degree and working in a related field), and careerist attitudes. That is, careerist attitudes were found to be more prominent in graduates that were working in a field which did not utilize their education and skills appropriately. On the other hand, measures of underemployment in terms of using expertise and full-time work status were not found to be significantly related to careerist attitudes. Thus graduates who are underemployed may be more likely to have careerist attitudes towards work and an increased reliance on non-performance-based tactics to get ahead.

Hypothesis 2: Underemployment will be positively related to careerist attitudes.

Life Satisfaction

As Feldman and Turnley note in their article entitled, Underemployment among recent business college graduates, underemployment has been consistently linked to poorer mental health (1995, p. 694). Empirical research has found underemployment to be positively correlated with depression and negatively correlated with general affect (Feather & O'Brian, 1986a; 1986b; Winefield & Tiggemann, 1989a, 1989b). At the most extreme, underemployment has also been linked with suicide (Stack, 1982).

Implicit in this discussion of mental health among underemployed workers is the assumption that the sense of discouragement and defeat experienced in the workplace and job market spills over into individuals' attitudes towards their lives in general. The spillover hypothesis suggests that satisfaction (or dissatisfaction) in one area of life affects, or spills over to, another (Spector, 2008). Thus, problems and dissatisfaction at home can affect satisfaction with work, and problems and dissatisfaction at work can affect satisfaction at home (Spector, 2008). Kornhauser (1965) found in her study of industrial workers that favourable or unfavourable job feelings were carried over to produce corresponding feelings in other sectors of life. Extending on this, Nabi (2003) found that compared to graduates who were in employment appropriate to their qualification, underemployed graduates not only reported lower levels of satisfaction with their job and careers but also lower levels of satisfaction with their life in general. In addition, difficulties in finding satisfactory employment at time of graduation and

prolonged underemployment may lead to learned helplessness among new graduates (as cited in Feldman & Turnley, 1995), which can result in their experiencing lower self-esteem, increased depression, and decreased feelings of control over their lives. Hypothesis 3 suggests that underemployed recent graduates will have lower satisfaction with their lives in general.

Hypothesis 3: Underemployment will be negatively related to life satisfaction.

Organizational Commitment

In their review of the organizational commitment literature, Meyer and Allen (1991) identified three distinct forms of commitment: commitment as an affective attachment to the organization, commitment as a perceived cost associated with leaving the organization, and commitment as an obligation to remain in the organization. They referred to these forms of commitment as *affective*, *continuance*, and *normative* commitment. Common to the three approaches is the view that commitment is a psychological state that (a) characterizes the employee's relationship with the organization, and (b) has implications for the decision to continue or discontinue membership in the organization (Meyer, Allen, & Smith, 1993). Beyond this, the nature of the psychological state for each of the three types of commitment is quite different. Employees with a strong affective commitment continue employment with the organization because they want to do so (Meyer et al., 1993). Employees whose primary link to the organization is based on continuance commitment remain because they need to do so, and employees with a high level of normative commitment often stay in their job because they feel they 'ought' to remain with the organization or feel they have a moral responsibility to do so (Meyer et al., 1993).

An employee who perceives him or herself to be underpaid, overqualified, or otherwise underemployed may feel less committed to the organization. However, actual research on the relationship between underemployment and some forms of commitment is scarce, with consistent findings yet to emerge. For instance, Feldman and colleagues (Feldman et al., 2002; Feldman & Turnley, 1995) found consistent negative relationships between various dimensions of

underemployment (over qualification, employment in an unrelated field, and part-time work) and affective commitment. Johnson, Morrow and Johnson (2002) found a negative relationship between job mismatch (i.e. over qualification) and affective commitment but no relation with continuance commitment or normative commitment. In his meta-analysis, Thorsteinson (2003) found no link between work status (part-time vs. full-time) and organizational commitment, though this comparison did not incorporate employee desires for part-time or full-time work.

Graduates in this study who have not achieved employment which meets their expectations and feel discrepancies between their pay, job responsibility and job challenge in relation to their qualifications, are predicted to feel less emotional attachment to their employer and the organization as a whole. In addition, it is expected that graduates who feel underemployed in their job would also have low investment in the organization due to these discrepancies, and hence the perceived costs of leaving the organization would be lower. Based on this rationale the following hypotheses were proposed:

Hypothesis 4a: Underemployment will be negatively related to affective commitment

Hypothesis 4b: Underemployment will be negatively related to continuance commitment.

Normative commitment was not included in this study as it can produce a high correlation with affective commitment (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002) and therefore may not be easily distinguishable from affective commitment.

Intention to Quit

According to the underemployment literature, workers who are underemployed are also more likely to think about quitting their jobs (Feldman, 1996; Feldman & Doeringhaus, 1992; Feldman et al., 1994). Turnover intention or intention to quit has been conceived as a conscious and deliberate plan to leave the organization (Tett & Meyer, 1993). It has often been described as the last in a sequence of withdrawal cognitions, a set to which thinking of quitting and intent to search for alternative employment also belong (Tett & Meyer, 1993).

Tett and Meyer (1993) reported that the primary method employees have for reducing their employment discrepancies is to change jobs, which is most often preceded by withdrawal cognitions. Hersch (1995) found that workers who were overqualified in their jobs and who had failed to be promoted to a job which better matched their qualifications were more likely to quit. Burris (1983b), in his study on the effects of underemployment on clerical workers, found that those who were more highly educated were less likely to give their jobs one year to improve before leaving. He also found underemployed college graduates to be the most dissatisfied with their jobs and reported the highest levels of intention to quit. Along similar lines, in their study on recently graduated MBA students in America, Robinson, Kraatz and Rousseau (1994) found employees who felt their organizations were not fulfilling their commitments to them were less likely to give advance notice before leaving and were less likely to stay two years with the organization. When considered with the evidence that underemployment is also strongly associated with job dissatisfaction, it is reasonable to propose that underemployment will be highly correlated with intentions to quit.

Hypothesis 5: Underemployment will be positively related to intention to quit.

Job Searching

Underemployment has also consistently been found to be associated with greater job-searching behaviour (Feldman & Leana, 2000; Feldman et al., 2002; Wald, 2005). The coping literature suggests that individuals engage in a wide variety of behaviours to re-establish new routines after they have experienced a stressful event such as underemployment (Feldman & Turnley, 1995). Problem-focused coping, one type of coping strategy, refers to behaviours directed at controlling or eliminating the cause of stress itself (Leana & Feldman, 1995). A particular problem-focused behaviour which has received much attention in the literature is job searching (Feldman & Turnley, 1995). In terms of job searching behaviour, the research consistently suggests that underemployed workers are more likely to search for new jobs compared to those who feel they are appropriately employed (Borgen et al., 1988; Burris, 1983a). Because underemployed workers are more likely to be dissatisfied in their job, it is also likely that they will be more energized to look for alternative employment.

Moreover, looking for another job is the problem-focused coping strategy most likely to be instrumental in eliminating the cause of the stress itself, i.e., underemployment (Feldman & Turnley, 1995).

Wald (2005) developed an empirical model in which the predictors of job search were related to the basic economic assumption that the employee's decision to undertake job search behaviour depended on a cost-benefit assessment. For example, since younger workers have the longest working life ahead of them, they will have the most to potentially gain from job search and hence engage more in this type of behaviour. The results of Wald's (2005) study also showed that numerous employee perceptions can reduce active job search. For example, when employees are satisfied with their work, feel that their work is interesting, or believe that they are being treated in a fair manner by their employers, job search is reduced. External job search is lessened when employees believe that they have good internal opportunities for advancement. Conversely, when employees sense that morale is low at the workplace, job search is increased. Based on these findings, I predicted that underemployment amongst recent university graduates will lead to heightened job searching behaviour.

Hypothesis 6: Underemployment will be positively related to job searching behaviour.

Mediating Effects of Relative Deprivation

During the 1970's, organizational researchers became increasingly interested in the effects of equity, broadly defined as employees' responses to their jobs. In equity theory, an individual's satisfaction with their job is determined by how the ratio of an individual's job rewards to job inputs stacks up against the ratio of job rewards to job inputs of a referent other (Adams, 1976). Relative deprivation theory also addresses the role of comparisons in shaping individuals' attitudes. However, rather than focusing on individuals' assessments of specific jobs, relative deprivation focuses on individuals' sense of injustice with various societal conditions. The term, 'relative deprivation' was first introduced by Stouffer, Suchman, DeVinney, Star and Williams in 1949 (as cited in Feldman et al., 2002), in order to explain why levels of satisfaction among soldiers did not consistently coincide with their objective job conditions. The

results of their study suggested that individual's job attitudes are at least partially influenced by how objective job conditions match up to what individuals desire and feel entitled to receiving from their job. Relative deprivation is therefore essentially a subjective reaction to the individual's current employment situation when compared to the job situation they want and feel entitled to.

Since its introduction, relative deprivation theory has been used by researchers to explain social problems (such as race and gender discrimination and work related problems) in which people's subjective feelings and objective circumstances do not match. Thus relative deprivation theory may be a particularly appropriate approach to examine the construct of underemployment, because much of the dissatisfaction and negative experiences underemployed workers feel may be the result of frustrated hopes and desires of obtaining employment that better utilizes and recognizes their skills and abilities. For example, whereas equity theory examines how employees assess the fairness of their job rewards relative to their present colleagues, relative deprivation theory allows us to examine the comparisons underemployed workers make to the jobs they may have lost or the jobs they hope to ultimately obtain.

A theoretical formulation proposed by Crosby (1976) has exerted a profound influence on relative deprivation research. Crosby (1976) originally posited five necessary preconditions for individuals to experience subjective feelings of deprivation. These were: (1) they want some object X; (2) they feel entitled to X; (3) they perceive that someone else possesses X; (4) they think it is feasible to attain X; and (5) they refuse personal responsibility for their current failure to possess X. Through refinements of her theory, Crosby (1984) simplified her model to focus on just two basic assumptions: (1) wanting X, and (2) deserving X. Martin (1981) also wrote that relative deprivation stems from a comparison between the rewards received by oneself and the rewards received by some other referent person. Researchers in this area agree that relative deprivation derives from (1) wanting some outcome, (2) feeling deserving of that outcome, (3) not receiving that outcome, and (4) perceiving that some comparative other receives the desired outcome or more of the desired outcome (D.C Feldman, C.R. Leana, & W.H Turnley, 1997).

The degree and circumstances in which individuals experience the most relative deprivation therefore depend on several factors. One is the degree of discrepancy between the outcomes an individual receives and the outcomes he/she expects to receive. Relative deprivation theory proposes that the greater the discrepancy between the actual and preferred outcome, the greater the sense of deprivation an individual will feel (Feldman et al., 2002; D C Feldman et al., 1997). A second factor is the similarity of the person an individual chooses to compare themselves too. Individuals tend to seek out people with similar backgrounds and education level (D C Feldman et al., 1997). For example, underemployed university graduates are likely to compare themselves to their more successfully employed classmates as their point of reference since rational explanations for the difference in outcomes are less likely due to the similarities in qualifications (D C Feldman et al., 1997).

A third factor in determining the degree of relative deprivation an individual will experience are the attributions an individual makes about the reasons for any differences in outcomes compared to others. Individuals who blame themselves for their lower levels of outcomes will tend to experience less relative deprivation than those individuals who blame external events (D C Feldman et al., 1997). This may be because external factors can lead to greater feelings of injustice whereas individuals who blame themselves are likely to feel they have more control over influencing their circumstances and therefore their outcomes. A fourth factor in understanding the degree of relative deprivation is the extent to which individuals feel a sense of entitlement to future rewards. The greater the sense of entitlement for future outcomes, the greater the sense of relative deprivation individuals will feel (Feldman et al., 2002). For example, workers who hold graduate degrees may feel more entitled to jobs that utilize their extensive education and in turn greater rewards, whereas workers with high-school diplomas may not have such high expectations of obtaining self-actualization from their jobs and therefore greater rewards (Feldman et al., 2002).

Based on these assumptions, how negatively employees react to underemployment and the hypothesised job outcomes largely depends on the degree of relative deprivation they feel and the circumstances which lead

individuals to feel a sense of deprivation. I propose that relative deprivation will mediate the relationship between underemployment and important job outcomes (i.e. job satisfaction, life satisfaction, careerism, organizational commitment and so forth). Using a discrepancy approach similar to previous research on relative deprivation, the present research suggests that individuals compare their present job situation with those they want and with which they feel entitled. The greater the discrepancy between current job conditions and desired job conditions (the greater the relative deprivation), the more negative employees job attitudes will be. Thus, it is through generating relative deprivation that underemployment may lead to negative job and career attitudes (Feldman et al., 2002). This leads to the following hypothesis.

Hypothesis 7: Relative deprivation will mediate the relationship between underemployment and the proposed outcomes. Underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in:

- (a) lower job satisfaction
- (b) stronger careerist attitudes
- (c) lower life satisfaction
- (d) lower affective commitment
- (e) lower continuance commitment
- (f) increased intention to quit, and
- (g) increased job searching behaviour.

It is important to note that I am not expecting the relationship between underemployment and the hypothesised job outcomes to always be fully mediated by relative deprivation. Partial mediation can occur, as Feldman, Leana and Bolino (2002) have found, as well as a direct relationship between underemployment and the proposed job outcomes without any mediating effect. Relative deprivation was a variable of interest in this research as it has the potential to offer a deeper understanding of underemployment.

In summary, underemployment is a growing phenomenon that is affecting the attitudes of individuals in relation to their careers and their overall life satisfaction. While some research has explored this phenomenon, very little has been conducted in New Zealand. The aim of this study was to determine the job attitudes of graduates who are living and working in New Zealand. The

relationships between underemployment and job satisfaction, careerist attitudes, life satisfaction, affective and continuance commitment, intention to quit and job searching were explored. In addition, relative deprivation was examined as a potential explanatory mechanism for how underemployment may influence these proposed job attitudes.

SUMMARY OF HYPOTHESES

(Refer to Figure 1)

- H1:* Underemployment will be negatively related to job satisfaction.
- H2:* Underemployment will be positively related to careerist attitudes.
- H3:* Underemployment will be negatively related to life satisfaction.
- H4a:* Underemployment will be negatively related to affective organizational commitment.
- H4b:* Underemployment will be negatively related to continuance commitment.
- H5:* Underemployment will be positively related to intention to quit.
- H6:* Underemployment will be positively related to increased job searching behaviour.
- H 7:* Relative deprivation will mediate the relationship between underemployment and the proposed outcomes. Underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in (a) lower job satisfaction, (b) stronger careerist attitudes, (c) lower life satisfaction, (d) lower affective commitment, (e) lower continuance commitment, (f) increased intention to quit, and (g) increased job searching behaviour.

CHAPTER 2

METHOD

A questionnaire was administered to recent graduates from the University of Waikato and the University of Victoria (Wellington) in New Zealand. The questionnaire was designed to measure the individual's perceptions of their early career experiences. Job satisfaction, life satisfaction, careerism, organizational commitment, intention to quit, job search, and relative deprivation were assessed.

Participants

The participants in this study consisted of alumni graduates who had completed a qualification at either the University of Waikato or the University of Victoria (Wellington) in the last five years (graduated in 2004 or later). Participants were also required to be living and working in New Zealand in order to participate in this study. I was advised by both Waikato and Victoria's alumni administrators that an email with the online questionnaire link included would be sent out to approximately 16000 alumni collectively. There was no way of ascertaining the exact number of people who actually received the email, as problems such as bouncing and change of email address can occur. From this pool of potential participants, 723 questionnaires were completed and returned. Of these, 155 were discarded from analysis due to one or more whole scales not being entirely completed, representing a final sample of 568.

Respondents' age ranged from 21 to 62 years old (mean = 31, SD = 9.57) (Table 2). Of the participants, 68% were female. Confirming their status as graduates, the sample was highly educated, with 62% having either a bachelors or honours degree, and 37% having a post graduate diploma or higher, (1% = other). In addition, 73% of the sample was NZ/European and 9% Maori.

Table 2: Demographic characteristics of the sample

Gender (n = 567)	Male 31.7%	Female 68.1%				
Age (n = 413)	20-29 66.1%	30-39 15.7%	40-49 10.3%	50-59 6.8%	60+ 1.2%	
Education (n = 564)	Bachelors Degree 45.6%	Honours Degree 16.7%	Post Graduate Diploma 11.9%	Masters Degree 22.2%	Doctorial Degree 2.8%	Other 0.9%
Ethnicity (n =564)	NZ European 72.5%	Other European 4.8%	Maori 9%	Pacific Peoples 2.1%	Asian 7.6%	Other 3.9%

Procedure

The Research and Ethics Committee of the Psychology Department at the University of Waikato granted ethical approval for this research. A questionnaire was developed based on previous measures used in the underemployment literature. The questionnaire consisted of 93 questions pertaining to the individual's current employment situation (refer to Appendix A). Contact was initially made with both Waikato and Victoria Universities alumni offices in order to gain consent to forward my questionnaire link to alumni graduates on their database who met the sample criteria. After receiving permission, an introductory email, including the link to the online questionnaire, was sent to each alumni administrator, and was then forwarded to all alumni members who had finished their qualification in 2004 or later. The email informed participants of the purpose of the study, their rights, and how to fill out the questionnaire itself (Appendix A). Confidentiality was maintained at all times by not recording any names. Participants who chose to complete the questionnaire were given the option at the end of the survey to add their email address to a contact list which indicated that they wanted a summary of the findings from the investigation upon completion.

Measures

Factor analysis was performed on the individual measures to assess their dimensionality. The scree plots and the factor matrix from the factor analyses for each measure can be found in Appendix B. Please note that when referring to the measure the first letter is capitalised and when referring to the construct in general it is un-capitalised.

Underemployment

In this study underemployment was measured using multiple scales. The first measure of underemployment, named Underemployment (Skills), utilized Bolino and Feldman's (2000) 13-item scale which was developed to assess skill utilization and underemployment. The items tap into the extent to which individuals' work is not challenging, does not provide learning opportunities, and does not fully utilize their education, experience, training, skills and abilities. Sample items include: 'I am over educated for this job' and 'In terms of skill utilization; my present job is not as good as it ought to be'. Responses range from

(1) 'strongly disagree' to (7) 'Strongly agree'. Bolino and Feldman (2000) reported a Cronbach's alpha for this scale of .90.

To examine the factor structure of the 13-item Underemployment (Skills) measure, principal axis factor analysis was conducted. The results of the analysis showed only one factor (eigenvalue = 6.94), which was evident upon inspection of the scree plot. Factor loadings of the individual items ranged from .35 to .84, and the factor accounted for 50.39% of the variance (Cronbach's alpha .93).

Additional Measures of Underemployment

Eight items from Maynard, Joseph and Maynard (2006) were used to measure other indicators of underemployment that were not explored in Bolino and Feldman's (2000) Underemployment measure. These eight items were then broken down, as advocated by Maynard (2006), into four separate indicators of underemployment: Part-time versus Full-time employment, Temporary versus Permanent employment, Job-degree Mismatch, and Underpayment. Part-time versus Full-time employment was measured by asking participants to report their working arrangement (i.e. either part-time or full-time), and whether they would prefer to be in a different arrangement (scored yes or no). If participants answered yes to both of these items, this indicated that the individual was involuntarily employed part-time and would be defined as being underemployed on this particular measure, named Underemployment (Involuntary Part-Time). For Temporary versus Permanent employment, participants were asked whether they were employed permanently or temporarily, and, if temporarily, whether they would prefer to be employed permanently (scored yes or no). If participants answered yes to both of these items, this indicated that the individual was involuntarily employed in a temporary position and would be defined as underemployed on this measure, named Underemployment (Involuntary Temporary).

For Job-degree Mismatch, I asked participants about the degree of match between their job and their education (scored yes, somewhat, or no). Participants indicating that their job was not at least somewhat related to their education were then asked whether this mismatch was by voluntary choice and whether they would prefer to be employed in a job that was more closely related to their

education (both of these items scored yes or no). If participants answered yes or somewhat to item 5, no to item two, and yes to item three, this indicated that they perceived a mismatch between their qualification level and their job and would represent underemployment, named Underemployment (Job Mismatch). Finally, one item was used to measure Underpayment, named Underemployment (Pay). Participants were asked how much they felt they were being paid, relative to others with a similar degree or educational background. Responses ranged from (1) 'much less' to (7) 'much more'. For clarity purposes, responses on the underpayment item used were reversed scored so that higher scores reflect greater perceived underpayment.

Job Satisfaction

Job satisfaction was measured using three items developed by Cammann, Fichman, Jenkins, and Klesh (1983) as part of the Michigan Organizational Assessment Questionnaire (OAQ). The three items used were designed to describe an employee's subjective response to working in his or her job and organization. This scale represents a global indication of worker satisfaction with their job. Responses ranged from (1) 'strongly disagree' to (7) 'strongly agree'. Coefficient alpha values have been reported to range from .67 to .95 for this scale (Fields, 2002).

Principal axis factor analysis was conducted on the 3-item Job Satisfaction measure. The results of this analysis showed that the measure represented a unitary factor (eigenvalue = 2.52), which was evident upon inspection of the scree plot. The factor loadings of the individual items ranged from .78 to .92, and the factor accounted for 76.67% of the variance (Cronbach's alpha .90).

Careerist Attitudes towards Work

Careerist attitudes were measured using seven items from Feldman, Leana and Bolino's (2002) study on underemployment of re-employed executives. The 7-item scale assesses the extent to which individuals agree that advancement in organizations is based more on image management and personal connections than on competence. Sample items include: 'Who you know is more important in an organization than what you know' and 'Looking good to your boss is more

important in getting ahead than being good at your job'. Responses ranged from (1) 'strongly disagree' to (7) 'strongly agree'.

The 7-item Careerist Attitude measure was then explored using principal axis factor analysis. The results of the analysis showed that the measure had only one factor (eigenvalue = 3.37), which was evident upon inspection of the scree plot, representing a uni-dimensional construct. Factor loadings of the individual items ranged from .50 to .76, and the factor accounted for 39.75% of the variance (Cronbach's alpha .82).

Life Satisfaction

Life satisfaction was measured using five items from Diener, Emmons, Larsen, and Griffin (1985). This particular scale was designed to ask respondents for an overall judgment of their life. An example item is: 'If I could live my life over again, I would change almost nothing'. Responses for this scale ranged from (1) 'very dissatisfied' to (7) 'very satisfied'. The alpha reliability reported by Diener et al. (1985) was 0.88. A limitation however of this measure was that the wrong response scale was used and therefore did not fit the item content. The correct scale should have ranged from (1) 'strongly disagree' to (7) 'strongly agree'. This limitation is discussed in more detail in chapter four.

The 5-item Life Satisfaction measure was explored using principal axis factor analysis in order to examine the dimensionality of the measure. Only one factor was revealed upon inspection of the scree plot (eigenvalue of 3.76), indicating that the items from the Life Satisfaction measure were uni-dimensional. The factor loadings of the individual items ranged from .70 to .93, and the factor accounted for 69.53% of the variance (Cronbach's alpha .91).

Organizational Commitment

Organizational commitment was measured using Meyer and Allen's (1990) 8-item Affective Commitment scale and their 8-item Continuance Commitment scale. The Affective Commitment scale taps the extent to which individuals feel emotionally attached to their organization and feel that their organization has a great deal of personal meaning for them. Meyer and Allen (1990) obtained a coefficient alpha for this scale of 0.87. The Continuance Commitment scale taps

the extent to which individuals feel committed to their organization by virtue of the costs that they feel are associated with leaving. Meyer and Allen (1990) reported a coefficient alpha of 0.77. Responses for both scales ranged from (1) ‘strongly disagree’ to (7) ‘strongly agree’.

Principal axis factor analysis was carried out separately on both of the 8-item measures. The results of the factor analysis of the 8-item Affective Commitment measure revealed a unitary factor (eigenvalue = 4.16), which was evident upon inspection of the scree plot. Factor loadings of the individual items ranged from .31 to .85, and the factor accounted for 46.30% of the variance (Cronbach’s alpha .86).

Principal axis factor analysis for the 8-item Continuance Commitment measure also revealed only one factor (eigenvalue = 3.14), which can be seen from the scree plot. Factor loadings of the individual items ranged from .30 to .80. The factor loading of .30 for item four ‘It wouldn’t be too costly for me to leave my organization now’ (reversed scored) was marginal, yet deleting the item did not improve the reliability, therefore it was retained. The factor accounted for 33.77% of the variance (Cronbach’s alpha .77).

Intention to Quit

An individual’s intention to quit their job was measured using five items from Bozeman and Perrewé (2001). This scale taps the extent to which an individual is looking for new employment. A sample item is ‘At the present time, I am actively searching for another job in a different organization’. Respondents indicated their agreement with each item on a 7-point scale ranging from (1) ‘strongly disagree’ to (7) ‘strongly agree’. The coefficient alpha reliability estimate for this scale based on the sample used in Bozeman and Perrewé (2001) study ranged from .90 to .94.

To explore the factor structure of the 5-item Intention to Quit measure, principal axis factor analysis was conducted. The results of this analysis showed that the measure represented a unitary factor (eigenvalue = 3.83), which was evident upon inspection of the scree plot. Factor loadings of the individual items

ranged from .78 to .87, and the factor accounted for 70.71% of the variance (Cronbach's alpha .92).

Job Searching Behaviour

Individuals' job search behaviours were measured using five items from Blau's (1993) 16-item scale. The five items chosen were those also used in Feldman, Leana and Bolino's (2002) study on underemployment of re-employed executives. This 5-item scale taps the extent to which respondents are circulating their resumes around other companies and currently interviewing for other jobs. A sample item is: 'I already have some resumes circulating at other companies'. Responses ranged from 'never (0 times)' to 'very frequently (more than 10 times)' over a six month period.

To explore the factor structure of the 5-item Job Searching measure, principal axis factor analysis was conducted. The results of this analysis showed that this 5-item measure represents a uni-dimensional construct as only one factor (eigenvalue = 3.18) was evident upon inspection of the scree plot. Factor loadings for the individual items ranged from .46 to .93, and the factor accounted for 56.25% of the variance (Cronbach's alpha .85).

Relative Deprivation

Recent work on relative deprivation suggests that two components (wanting more and feeling entitled to more) account for most of the variance in relative deprivation (D C Feldman et al., 1997). In this study, ten items from Olson, Roese, Meen, and Robertson (1995) were used to measure relative deprivation. The items measured the extent to which respondents both desired and felt entitled to better job situations. Sample items include: 'Would you like a job situation that is better in terms of salary?' and 'Do you think you deserve to have a job situation that is better in terms of job responsibility?' Responses ranged from (1) 'to no extent' to (5) 'to a great extent'. Alpha reliability coefficients for the 10 items were reported to range from .88 to .92 (Olsen et al., 1995).

Principal axis factor analysis was conducted on the 10-item Relative Deprivation measure. From the analysis, only one factor was revealed upon inspection of the scree plot (eigenvalue = 6.79). Factor loadings of the individual

items ranged from .55 to .87, and the factor accounted for 65.35% of the variance (Cronbach's alpha .95).

Mediation Analysis

In order to test the mediating effects of relative deprivation (H7), the regression procedures recommended by Baron and Kenny (1986) were employed. Baron and Kenny (1986) indicated that three conditions are necessary to demonstrate mediation:

- (1) The predictor variable must be significantly related to the mediator.
- (2) The predictor variable must be significantly related to the criterion variable.
- (3) The mediating variable must be significantly related to the criterion variable while controlling for the effects of the predictor variable.

In order to conclude that there is full mediation, the predictor variable has to have no significant relationship with the criterion variable when controlling for the mediator. If the relationship of the predictor variable with the criterion variable is less when controlling for the mediating variable than when not controlling for it, but is still significant, partial mediation is said to be demonstrated. No mediation is evident when the predictor variable has no significant relationship with the criterion variable and the mediator variable. In some cases an indirect effect can occur, when there is no initial relationship between the predictor and the criterion, but the predictor is significantly correlated with the mediator and the mediator is significantly correlated with the criterion variable.

The Sobel test, also recommend by Baron and Kenny (1986), was carried out for each hypothesised mediation effect. This calculation provides an indication of the significance of each mediation effect. The results of the mediation analysis are presented in chapter three.

CHAPTER 3

RESULTS

The results of this study are discussed in the following order: (a) transformation analysis, (b) descriptive statistics (c) testing of hypotheses, (d) additional correlations, and (d) the mediating effects of relative deprivation.

The results of the Pearson Product Moment correlations between the research variables are listed in Table 3. Due to the large sample size, only those correlations significant at $p < .01$ were considered to be significant. This was done in order to avoid small but significant correlations.

Transformation Analysis

Skew was assessed on all the items retained for each measure in order to determine whether transformation of the data was needed. Measures that showed a substantial or significant skew included: Underemployment (Skills) (.39), Job Satisfaction (-.87), Life Satisfaction (-.64), and Job Searching (1.03).

Transformation was conducted as per the procedures advocated by Tabachnick and Fidell (2001) on these four scales; however results from the transformation procedure did not substantially alter the variable inter-correlations, therefore the original data set was retained.

Descriptive Statistics

For each composite variable, a mean score was computed by summing responses across all items in each scale then dividing this total by the number of items responded to by the person, giving the average score of an individual across the number of items responded to.

Underemployment Measures

Descriptive statistics (Table 3) for the Underemployment (Skills) measure showed a mean score on the 7-point scale of 3.28 and a standard deviation of 1.31, suggesting that the sample felt marginally underemployed in relation to the amount of opportunities they were receiving to utilize their qualification, previous experience and skills on the job.

Table 3: Correlations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Skills	3.28	1.31	(.93)												
2. Inv PT	-	-	.21*	-											
3. Inv Temp	-	-	.07	.24*	-										
4. Pay	-	-	.28*	.09	.04	-									
5. JobMis	-	-	.30*	.05	-.02	-.20*	-								
6. JobSat	5.16	1.49	-.66*	-.14*	-.02	-.21*	-.27*	(.90)							
7. CareerAtt	4.48	1.09	.44*	.05	.04	.25*	.13*	-.46*	(.82)						
8. LifeSat	4.91	1.41	-.34*	-.11*	-.06	-.22*	-.22*	.48*	-.30*	(.91)					
9. AffCom	4.16	1.19	-.49*	-.09	-.08	-.14*	-.14*	.67*	-.45*	.34*	(.86)				
10. ContCom	4.11	1.15	.11*	-.03	.02	.07	.11*	-.18*	.28*	-.23*	-.10	(.77)			
11. IntQuit	3.81	1.89	.50*	.18*	.13*	.18*	.18*	-.64*	.45*	-.34*	-.60*	.00	(.92)		
12. JobSearch	2.32	1.33	.45*	.28*	.22*	.19*	.19*	-.47*	.37*	-.32*	-.45*	.02	.67*	(.85)	
13. RelDep	3.31	1.15	.61*	.17*	.02	.34*	.22*	-.54*	.46*	-.36*	-.44*	.14*	.57*	.51*	(.95)

N Ranges from 561-568. * $p < .01$. Coefficient alpha values are presented on the diagonal for multi-item measures

UE = Underemployment, Skills = Underemployment (Skills), Inv PT = Underemployment (Involuntary Part-Time), Inv Temp = Underemployment (Involuntary Temporary), Pay = Underemployment (Pay), JobMis = Underemployment (Job Mismatch), JobSat = Job Satisfaction, CareerAtt = Careerist Attitudes, LifeSat = Life Satisfaction, AffCom = Affective Commitment, ContCom = Continuance Commitment, IntQuit = Intention to Quit, JobSearch = Job Searching, RelDep = Relative Deprivation

Descriptive statistics for the additional measures of underemployment revealed that 6.2% of respondents were involuntarily employed in a part-time position and 13.9% were involuntarily working in a temporary position when they would prefer full-time, permanent work. In addition 22.9% of the sample felt they were being underpaid compared to their peers with a similar qualification, and 6.5% of participants felt they were not working in a job which matched their qualification.

Other Variables

Generally the mean scores for Job Satisfaction, Careerist Attitudes, Life Satisfaction, Affective Commitment, and Continuance Commitment fell around the upper middle point of the 7-point scale (4-6) with standard deviations ranging from 1.09 to 1.49. The mean scores for Intention to Quit and Job Searching were placed around the middle to lower end of the 7-point scale (2-4) with standard deviations ranging from 1.33 to 1.89. Relative Deprivation, measured on a 5-point scale, had a mean rating of 3.31 and a standard deviation of 1.15, indicating a moderate level of feelings of relative deprivation across the sample.

Testing of Hypotheses

Hypothesis 1 concerned the negative relationship between subjective feelings of underemployment and the level of job satisfaction an individual feels with their job. The results of the correlations showed that Job Satisfaction was negatively and significantly correlated with Underemployment (Skills) ($r = -.66$), Underemployment (Involuntary Part-Time) ($r = -.14$), Underemployment (Pay) ($r = -.21$), and Underemployment (Job Mismatch) ($r = -.27$). The nature of these relationships suggest that individuals who felt underemployed in relation to lack of skill utilization, who were involuntarily employed part-time, who perceived a discrepancy between their pay, and felt there was a mismatch between their job and qualification level, were less satisfied in their jobs. Underemployment (Involuntary Temporary) did not have a significant correlation at $p < .01$. Based on these findings, support for hypothesis one was found in respect of Underemployment (Skills), Underemployment (Involuntary Part-Time), Underemployment (Pay), and Underemployment (Job Mismatch). People who

were defined as underemployed on these measures were generally less satisfied with their jobs.

Hypothesis 2 concerned the positive relationship between subjective feelings of underemployment and careerist attitudes. Careerist attitudes was positively and significantly correlated with Underemployment (Skills) ($r = .44$), Underemployment (Pay) ($r = .25$), and Underemployment (Job Mismatch) ($r = .13$). The nature of these relationships suggest that individuals who felt underemployed in relation to lack of skill utilization, who perceived a discrepancy between their pay, and felt there was a mismatch between their job and qualification level, had stronger careerist attitudes. Both Underemployment (Involuntary Part-Time) and Underemployment (Involuntary Temporary) did not show significant correlations at $p < .01$. Based on these findings, support for hypothesis two was found in respect of Underemployment (Skills), Underemployment (Pay), and Underemployment (Job Mismatch). People who were defined as underemployed on these measures generally had stronger careerist attitudes towards their jobs.

Hypothesis 3 concerned the negative relationship between subjective feelings of underemployment and an individual's feelings of overall life satisfaction. Life satisfaction was negatively and significantly correlated with Underemployment (Skills) ($r = -.34$), Underemployment (Involuntary Part-Time) ($r = -.11$), Underemployment (Pay) ($r = -.22$), and Underemployment (Job Mismatch) ($r = -.22$). The nature of these relationships suggest that individuals who felt underemployed in relation to lack of skill utilization, who were involuntarily working in a part-time position, who perceived a discrepancy between their pay, and felt there was a mismatch between their job and qualification level, reported being less satisfied with their lives in general. Underemployment (Involuntary Temporary) did not have a significant correlation at $p < .01$. Based on these findings, support for hypothesis three was found in respect of all the Underemployment measures with the exception of Underemployment (Involuntary Temporary). People who were defined as underemployed on these measures were generally less satisfied with their lives.

Hypothesis 4a concerned the negative relationship between subjective feelings of underemployment and an individual's feelings of affective commitment towards their organization, that is, the emotional attachment and personal meaning an individual feels towards their organization. Affective Commitment was negatively and significantly correlated with Underemployment (Skills) ($r = -.49$), Underemployment (Pay) ($r = -.14$), and Underemployment (Job Mismatch) ($r = -.14$). The nature of these relationships suggest that individuals who felt underemployed in relation to lack of skill utilization, who perceived a discrepancy between their pay, and felt there was a mismatch between their job and qualification level, had lower affective commitment towards their organization. Underemployment (Involuntary Part-time), and Underemployment (Involuntary Temporary) showed no significant correlations at $p < .01$. Based on these findings, support for hypothesis 4a was found in respect of Underemployment (Skills), Underemployment (Pay) and Underemployment (Job Mismatch). People who were defined as underemployed on these measures generally did not have a strong sense of affective commitment towards their organization.

Hypothesis 4b concerned the negative relationship between subjective feelings of underemployment and the perceived cost associated with leaving an organization - continuance commitment. Contrary to expectations, Continuance Commitment was found to be positively and significantly correlated with Underemployment (Skills) ($r = .11$), and Underemployment (Job Mismatch) ($r = .11$). The nature of these relationships then suggests that individuals who felt underemployed in their job in relation to the opportunities they received to utilize their skills and qualification, reported higher continuance commitment. Based on the positive direction of these findings, no support was found for hypothesis 4b. People who were defined as underemployed on these two measures generally had higher levels of continuance commitment. That is, they perceive the cost of leaving their organization as being greater when they feel underemployed.

Hypothesis 5 concerned the positive relationship between subjective feelings of underemployment and an individual's intention to quit their job. Intention to Quit was positively and significantly correlated with

Underemployment (Skills) ($r = .50$), Underemployment (Involuntary Part-Time) ($r = .18$), Underemployment (Involuntary Temporary) ($r = .13$), Underemployment (Pay) ($r = .18$), and Underemployment (Job Mismatch) ($r = .18$). The nature of these relationships suggests that individuals who perceived a lack of opportunities for skill utilization, who were involuntarily employed part-time, were involuntarily working in a temporary position, who perceived a discrepancy in their pay relative to their peers, and who perceived a mismatch between their pay and job and qualification level, were more likely to think about quitting their jobs. Based on these findings, support for hypothesis 5 was found in respect to all five measures of Underemployment. People who were defined as underemployed on these measures were more likely to think about quitting their job.

Hypothesis 6 concerned the positive relationship between subjective feelings of underemployment and an individual's job searching behaviour. Job Searching was positively and significantly correlated with underemployment (Skills) ($r = .45$), Underemployment (Involuntary Part-Time) ($r = .28$), Underemployment (Involuntary Temporary) ($r = .22$), Underemployment (Pay) ($r = .19$), and Underemployment (Job Mismatch) ($r = .19$). The nature of these relationships suggests that individual who perceived a lack of opportunities for skill utilization, who were involuntarily employed part-time, who were involuntarily working in a temporary position, who perceived a discrepancy in their pay relative to their peers, and who perceived a mismatch between their pay and job and qualification level, were more likely to be actively searching for a new job. Based on these findings, support for hypothesis 6 was found in respect to all five measures of Underemployment. People who were underemployed on these measures were more likely to be engaging in job searching behaviour.

Additional Correlational Analysis of Potential Interest

In addition to hypothesis testing, I explored other correlates of potential interest to research in the field of underemployment. These are presented below.

Inter-correlations of Underemployment Measures

Underemployment (Skills) was positively and significantly correlated with Underemployment (Involuntary Part Time) ($r = .21$), Underemployment (Pay) (r

= .28), and Underemployment (Job Mismatch) ($r = .30$). The nature of these relationships suggests that an individual, who feels they are not given opportunities to utilize their skills, who are involuntarily employed part-time, who perceive a discrepancy between pay compared to their fellow peers with a similar qualification, and who also perceive a mismatch between their level of education and their job, may be defined as being underemployed. Underemployment (Involuntary Temporary) did not have a significant correlation at $p < .01$.

Job Satisfaction

Job Satisfaction was positively and significantly correlated with Life Satisfaction ($r = .48$), and Affective Commitment ($r = .67$). The nature of these relationships suggests that as an individual's level of job satisfaction increases, their feelings of life satisfaction and affective commitment towards their organization also increases.

Job Satisfaction was negatively and significantly correlated with Careerist Attitudes ($r = -.46$), Continuance Commitment ($r = -.18$), Intention to Quit ($r = -.64$), and Job Searching ($r = -.47$). The nature of these relationships suggest that as an individual's level of job satisfaction decreases, their careerist attitudes, feelings of continuance commitment towards their organization, and thoughts of leaving their current job, will increase.

Careerist Attitudes

Careerist Attitudes was positively and significantly correlated with Continuance Commitment ($r = .28$), Intention to Quit ($r = .45$), and Job Searching ($r = .37$). The nature of these relationships suggests that the more an individual's beliefs about career advancement are focused on image management and networking rather than on their skills, the greater their feelings of continuance commitment, intention to quit, and job searching behaviour will be.

Careerist Attitudes was negatively and significantly correlated with Life Satisfaction ($r = -.30$) and Affective Commitment ($r = -.45$), suggesting that the more an individual's beliefs about career advancement are focused on image management and networking rather than on competence, the less life satisfaction and affective commitment towards their organization they will feel.

Life Satisfaction

Life Satisfaction was positively and significantly correlated with Affective Commitment ($r = .34$). The nature of this relationship suggests that as an individual's level of life satisfaction increases, their feelings of affective commitment toward their organization also increases.

Life Satisfaction was negative and significantly correlated with Continuance Commitment ($r = -.23$), Intention to Quit ($r = -.34$), and Job Searching ($r = -.32$). The nature of these relationships suggests that as an individual's level of life satisfaction decreases, their feelings of continuance commitment towards their organization, thoughts about leaving their job, and job searching behaviours, increases.

Affective Commitment

Affective Commitment was negatively and significantly correlated with Intention to Quit ($r = -.60$), and Job Searching ($r = -.45$). The nature of these relationships suggest that as an individual's feelings of affective commitment towards their organization decreases, their thoughts of leaving their organization, and the level of job searching behaviours they are engaging in, increases.

Continuance Commitment, Intention to Quit and Job Searching

The only other significant relationship, not discussed above, was between intention to quit and job searching ($r = .67$, $p < .01$). The nature of this relationship suggests that as an individual's thoughts about leaving their current job increases, their job searching behaviours will also increase. In addition, all of the research variables were significantly correlated with relative deprivation, which is discussed below under mediating effects.

Mediating Effects of Relative Deprivation – Hypothesis Testing

Hypothesis 7 concerned the mediating effects of relative deprivation. Correlations between relative deprivation and other variables are shown in Table 3. Relative deprivation was significantly correlated with Underemployment (Skills, $r = .61$, $p < .01$; Part-time, $r = .17$, $p < .01$; Pay, $r = .34$, $p < .01$; and Job

Mismatch, $r = .22$, $p < .01$). Relative deprivation was not, however, significantly related to Underemployment (Temporary).

H7a predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in lower job satisfaction. Relative deprivation was significantly correlated with job satisfaction ($r = -.54$, $p < .01$). The results of the mediation analysis (Table 4, Appendix C, p. 82), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 5.21, $p < .01$), Underemployment (Mismatch) (Sobel = 4.87, $p < .01$), and job satisfaction. Full mediation was achieved for Underemployment (Involuntary Part-Time) (Sobel = 3.81, $p < .01$), and Underemployment (Pay) (Sobel = 7.25, $p < .01$). No mediation was found for Underemployment (Involuntary Temporary) (Sobel = 0.56, $p > .01$).

H7b predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in stronger careerist attitudes. Relative deprivation was significantly correlated with careerist attitudes ($r = .46$, $p < .01$). The results of the mediation analysis (Table 5, Appendix C, p. 83), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 5.99, $p < .01$), Underemployment (Pay) (Sobel = 6.64, $p < .01$) and careerist attitudes. Full mediation was achieved for Underemployment (Mismatch) (Sobel = 4.72, $p < .01$). No mediation was found for Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$). An indirect relationship, however, was found for Underemployment (Involuntary Part-time) (Sobel = 3.75, $p < .01$). That is, Underemployment (Involuntary Part-time) was significantly related to relative deprivation ($\beta = .17$) and relative deprivation was significantly related to careerist attitudes ($\beta = .46$).

H7c predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in lower life satisfaction. Relative deprivation was significantly correlated with life satisfaction ($r = -.36$, $p < .01$). The results of the mediation analysis (Table 6, Appendix C, p. 84), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 4.62, $p < .01$),

Underemployment (Pay) (Sobel = 5.67, $p < .01$), Underemployment (Mismatch) (Sobel = 4.37, $p < .01$), and life satisfaction. Full mediation was only achieved for Underemployment (Involuntary Part-time) (Sobel = 3.60, $p < .01$). No mediation was found for Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$).

H7d predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in lower affective commitment. Relative deprivation was significantly correlated with affective commitment ($r = -.44$, $p < .01$). The results of the mediation analysis (Table 7, Appendix C, p. 85), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 4.81, $p < .01$) and affective commitment. Full mediation was achieved for Underemployment (Pay) (Sobel = 6.75, $p < .01$), and Underemployment (Mismatch) (Sobel = 4.70, $p < .01$). No mediation was found for Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$). An indirect relationship was evident for (Involuntary Part-time) (Sobel = 3.73, $p < .01$). That is, Underemployment (Involuntary Part-time) was significantly related to relative deprivation ($\beta = -.17$) and relative deprivation was significantly related to affective commitment ($\beta = -.44$).

H7e predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in lower continuance commitment. Relative deprivation was significantly correlated with continuance commitment ($r = .14$, $p < .01$). The results of the mediation analysis (Table 8, Appendix C, p. 86), revealed a full mediation effect (refer to p. 31) for Underemployment (Mismatch) (Sobel = 2.54, $p < .01$), and continuance commitment. Contrary to expectations, the positive correlation between relative deprivation and continuance commitment suggests that relative deprivation was associated with higher continuance commitment. No mediation was achieved for Underemployment (Skills) (Sobel = 2.24, $p > .01$), and Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$). Underemployment (Involuntary Part-time) (Sobel = 2.65, $p < .01$), and Underemployment (Pay) (Sobel = 2.83, $p < .01$) showed an indirect effect for the hypothesised relationship. In the first analysis, Underemployment (Involuntary

Part-time) was significantly related to relative deprivation ($\beta = .17$) and relative deprivation was significantly related to continuance commitment ($\beta = .15$). In the second analysis, Underemployment (Pay) was significantly related to relative deprivation ($\beta = .34$) and relative deprivation was significantly related to continuance commitment ($\beta = .13$). These indirect relationships also indicate that relative deprivation is associated with higher continuance commitment rather than lower continuance commitment.

H7f predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in increased intention to quit. Relative deprivation was significantly correlated with intention to quit ($r = .57, p < .01$). The results of the mediation analysis (Table 9, Appendix C, p. 87), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 8.67, $p < .01$) and intention to quit. Full mediation was achieved for Underemployment (Involuntary Part-time) (Sobel = 3.83, $p < .01$), Underemployment (Pay) (Sobel = 7.47, $p < .01$), and Underemployment (Mismatch) (Sobel = 4.93, $p < .01$). No mediation was found for Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$).

H7g predicted that underemployment will be related to feelings of deprivation in relation to an individual's current job situation, and this feeling of deprivation will result in increased job searching. Relative deprivation was significantly correlated with job searching ($r = .51, p < .01$). The results of the mediation analysis (Table 10, Appendix C, p. 88), revealed a partial mediation effect (refer to p. 31) for Underemployment (Skills), (Sobel = 7.57, $p < .01$), Underemployment (Involuntary Part-time) (Sobel = 3.79, $p < .01$) and job searching. Full mediation was achieved for Underemployment (Pay) (Sobel = 7.12, $p < .01$), and Underemployment (Mismatch) (Sobel = 4.83, $p < .01$), No mediation was found for Underemployment (Involuntary Temporary) (Sobel = .56, $p > .01$).

Summary of Results

Overall the correlations between the hypothesised research variables showed that Underemployment (Skills) and Underemployment (Job Mismatch) showed significant relationships with all seven of the proposed job outcomes, albeit a reverse relationship with continuance commitment to that which was

hypothesised. Underemployment (Pay) also showed a significant relationship for all of the direct hypotheses with the exception of continuance commitment. Underemployment (Involuntary Part-time), and Underemployment (Involuntary Temporary), however, showed more inconsistent results with Underemployment (Involuntary Part-time) showing support for four of the seven direct hypotheses and Underemployment (Involuntary Temporary) supporting two of the seven direct hypotheses.

The results of the mediation analysis revealed that relative deprivation mediated twenty three of the thirty five mediation analyses carried out. Underemployment (Job Mismatch) consistently showed either a full or partial mediation effect will all of the proposed job outcomes. Underemployment (Skills) and Underemployment (Pay) showed a mediation effect for six of the seven mediation hypothesis, and Underemployment (Involuntary Part-time) showed a mediation effect for four of seven mediation hypotheses. Indirect effects were found for three of the hypothesised mediation relationships between Underemployment (Involuntary Part-time) and the proposed job outcomes and Underemployment (Pay) and continuance commitment. No mediation was found for the hypothesised relationship between Underemployment (Skills) and continuance commitment, or for any of the relationships between Underemployment (Involuntary Temporary) and the hypothesised job attitudes. These findings along with their implications will be explained further in chapter four.

CHAPTER 4

DISCUSSION

The main aim of this study was to examine the relationship between underemployment and various job attitudes of recent graduates in New Zealand. Whilst the topic of *unemployment* has received much research attention over the years, *underemployment* has received less, particularly in a New Zealand context, and therefore the phenomenon is less understood. Given the current economic climate, and with more individuals choosing to study at a tertiary level in order to try and improve their chances of finding satisfactory employment (Coulon, 2002), the expectation is that many of these same individuals will be forced to accept work below their expectations and qualifications due to a “graduatization of many jobs previously filled by non-graduates” (Doherty et al., 1997, p. 173).

Research has revealed that people who are underemployed experience negative attitudes towards their job and careers in general (Borgen et al., 1988; Feldman & Turnley, 1995). Research has also found that relative deprivation can be an important mechanism in explaining how individuals experience underemployment and what causes these feelings (Feldman et al., 2002). Self report measures of underemployment and relative deprivation were used to explore the relationships between underemployment and both individual (including job satisfaction, careerist attitudes, and life satisfaction) and organizationally-relevant outcomes (including organizational commitment, intention to quit and job searching). Overall, the results showed that graduates who perceived themselves to be underemployed, reported having negative attitudes towards their jobs, careers and lives in general. Also, relative deprivation showed either a partial or full mediation effect for twenty three of the thirty five mediation analyses that were conducted.

The findings from this research, discussed in more detail below, have important implications for employees and employers, as well as providing further knowledge of the resulting attitudes of underemployed graduates. The subsequent sections of this chapter will discuss strengths and limitations, practical implications, future research, and final conclusions from this research.

Main Findings

The results from this study showed that there was not a high reported occurrence of underemployment based on all five measures. When conceptualised in the context of New Zealand's labour market, compared to other OECD countries, these findings may be more relevant than they first appear. New Zealand's low unemployment rates (6.4% which is the 11th lowest rate of 33 OECD countries and is below the average OECD rate of 8.5%) (Department of Labour, n. d.) may reflect the low underemployment rates observed in this study, compared to a sample from another country. Because of the relatively low unemployment rate, there may be more opportunity for individuals to gain employment at the levels they seek. The potential is that more graduates here, compared to other OECD countries, will find satisfactory employment that meets their expectations, which in turn may contribute to the lower occurrence of underemployment experienced in New Zealand.

Findings from this study are generally consistent with the growing evidence that underemployment is, by and large, related to poorer job attitudes (Feldman et al., 2002; Feldman & Turnley, 1995; Khan & Morrow, 1991; O'Brien, 1986), as well as increased intentions to quit one's job, and increased job searching. However, the results suggest that relations are not equally strong across the five different conceptualizations of underemployment. Underemployment (Skills), Underemployment (Job Mismatch), and Underemployment (Pay) showed support for six of the seven direct hypothesised relationships. In comparison, Underemployment (Involuntary Part-time) and Underemployment (Involuntary Temporary) did not show the same support for the hypothesised relationships with Underemployment (Part-time) supporting four of the seven direct relationships and Underemployment (Involuntary Temporary) supporting just two of the seven direct relationships.

Possible reasons for why Underemployment (Skills) and Underemployment (Job Mismatch) showed more consistent results could be due to the changing nature of work and the increase in skill requirements of jobs that were previously unsought. As a result, more individuals are choosing to study at a tertiary level in order to try and secure employment. It would therefore be

expected that recent university graduates would value skill utilization, and a job that matches their qualification, as very important factors in finding satisfactory employment. With the amount of time and money invested in education, graduates would want to be rewarded for their efforts at university through finding employment that meets their expectations and have their qualification utilized. However, a study conducted by Coulon (2002) suggested that the labour market is not able to accommodate every graduate in a job that matches these expectations and desires, leaving many individuals working in jobs where their qualifications and skills are not being utilized. It is arguable that this is still the case today, which may be forcing some graduates to accept positions that they are not happy with, and in turn, resulting in negative job attitudes. Perhaps this is why underemployment, in this study, was found to produce high rather than low continuance commitment. If graduates perceive there to be less opportunities to find employment that matches their qualification, they may perceive the costs of leaving their current employment situation to be too high.

The significant relationships between Underemployed (Pay) and job attitudes may also be the result of the current labour market and its inability to absorb the increase in numbers of individuals with a tertiary qualification. Job competition theory, as outlined by Coulon (2002), is based on the assumption that wages are linked to jobs rather than people. Consequently, an increase in the supply of highly educated workers does not lead to an adjustment in wages, instead, high skilled workers compete for a limited number of well-paid jobs and some lose out. Successful applicants are selected based on their ability to perform on the job for the lowest training costs. Those unsuccessful are forced to accept positions with lower skill requirements and lower pay even if they are overqualified for the job. This can then lead to perceived underemployment, which in turn, fosters feelings of job and life dissatisfaction, stronger careerist attitudes (belief that the best way to succeed in an organization has less to do with performance and more to do with networking and impression management), reduced affective commitment, increased intention to quit and increased job searching behaviour. It would be the focus of a much broader study to determine whether job competition theory closely describes the current state of underemployment in New Zealand.

The changing nature of work has necessitated new management strategies in order to remain competitive in a constantly changing economy, and the adoption of contingent employment is becoming more prominent against the long established permanent employment (Onyishi, 2010). Cohort differences could explain the way in which individuals react to contingent employment arrangements. For instance, the baby boomer generation (born approximately between 1946 and 1964) grew up when linear careers were the expectation. Career success was evaluated via the rate of upward mobility and external indicators of achievement (e.g. salary and social status), of which stability of structure and clarity of career ladders implied clear career paths (Baruch, 2004). In today's labour market, multidirectional careers are more prominent. People can experience different ways of defining career success: it can be a sideways move, change of direction, or organization, or aspiration (Baruch, 2004). People can choose (or have to choose) across these options, and there is no single way for reaching success. Younger graduates might be more accepting of the current job market conditions, and therefore may not see part-time or temporary work as being entirely negative, as they may not have experienced anything different.

In addition, graduates in temporary jobs may be of the view that it is just a temporary arrangement, with the possibility of finding a more secure and permanent position in the near future. Individuals may also choose to be working in a contingent employment arrangement due to the flexibility it provides in order for graduates to adapt constantly to the changing nature of work. Whether individuals' considers themselves to be underemployed in relation to their working arrangement therefore depends on individual circumstances and preferences. In other words, predicting job attitudes and intentions from one's work status requires consideration of the match between that status and the employees' desires. Negative job attitudes are more likely to result when an individual is unhappy with the type of employment arrangement they are in.

The findings from this study may also be explained by relative deprivation, which was found to mediate many of the relationships between underemployment and job attitudes. Underemployment (Skills), Underemployment (Job Mismatch), and Underemployment (Pay) consistently showed either a full or partial mediation

effect with all of the proposed job outcomes (with the exception of the relationship between Underemployment (Skills) and continuance commitment, and Underemployment (Pay) and continuance commitment). Underemployment (Involuntary Part-time) also showed a full or partial mediation effect for four of the seven mediation hypotheses, suggesting that relative deprivation plays an important role in shaping the attitudes of individuals who are underemployed.

Where full mediation was observed, relative deprivation affected the relationship between underemployment and the proposed job outcomes. In these instances, individuals who perceived themselves to be underemployed, felt that their objective circumstances did not match their subjective wants and desires for a better job situation. This feeling of deprivation then resulted in the experience of negative job attitudes. Perceived underemployment is likely to trigger feelings of relative deprivation because as individuals go through the education system, and as they build their repertoire of skills, knowledge, and abilities, they come to develop higher expectations about their place in society and the type of job they deserve to occupy (Vaisey, 2006) and increase their desire for autonomy at work (Vecchio & Boatwright, 2002). For example, going through the higher education system creates expectations regarding the status and prestige of the job one expects to hold, the nature of social relationships, and expected treatment by the organization (Rose, 2005). Thus, when employees find themselves in a job that they see as beneath what they were expecting, they experience a sense of status deprivation, which can result in negative job attitudes.

Partial mediation is also attributable to the discrepancy between an individual's current job situation and the job situation they desire. However, where partial mediation was observed, a direct relationship between the underemployment measure and job outcome was also evident, indicating that other factors, besides relative deprivation, can affect the job attitudes of individuals who are underemployed. For instance, self esteem may mediate the relationship between underemployment and job outcomes. Research by Prause and Dooley (1997) on the effects of underemployment on school leavers, found that self esteem was significantly lower in individuals who were underemployed relative to those who were adequately employed. According to Crocker and Wolfe

(2001), self-esteem is one's overall judgement of their self-worth. An individual's self-worth is contingent on self prescribed standards by which a person measures his or her self-esteem. That person's view of his or her value or worth therefore depends on adherence to these self standards (Crocker & Wolfe, 2001). If an individual perceives employment success as an important factor contributing to their overall self worth, and they find themselves working in a job which does not match their expectations, they may experience lower self esteem. Thus, it could be theorised that an individual with low self esteem, as a result of feeling underemployed, is likely to report negative job attitudes. Additional mediating factors may also include positive and negative effect and self efficacy, all of which are related to the emotional well-being of individuals, of which self-esteem/self-worth is just one.

Full or partial mediation was not found for all of the hypothesised relationships. Alternatively, an indirect effect was found for three of the hypothesised mediation relationships between Underemployment (Involuntary Part-time) and the proposed job outcomes and, the relationship between Underemployment (Pay) and continuance commitment. This indicated that there was a relationship between the underemployment measure and relative deprivation, and relative deprivation and the particular job outcome, but no direct link between underemployment and the job outcome. Therefore the relationship between the underemployment measure and the job outcome in these cases may still be explained by feelings of relative deprivation.

No mediation was found for the hypothesised relationship between Underemployment (Skills) and continuance commitment, or for any of the relationships between Underemployment (Involuntary Temporary) and the hypothesised job attitudes. In this instance, no significant relationships were found between the underemployment measure and the hypothesised job outcomes, or for the underemployment measure and relative deprivation. One possible explanation for this result could be that individuals in this sample may not have been unhappy working in a temporary position, and therefore, did not feel a sense of deprivation with their current job situation.

Overall, the results of the mediation analyses on the relationships between underemployment and the proposed job outcomes were in line with previous research by Feldman, Leana, and Bolino (2002) who also found that, in many cases, the effects of underemployment were significantly mediated by relative deprivation. These results highlight the potential of relative deprivation to be a powerful explanatory mechanism in understanding the effects of underemployment. Relative deprivation could help explain how feelings of underemployment are initiated and experienced and offer insight into potential avenues to support those individuals who may experience underemployment. This relationship will need to be explored through more in-depth research.

In addition to hypothesis testing, other relationships of interest included the inter-correlations between the attitudinal variables. Many of the organizational variables used in this study were significantly related to each, confirming previous research. For instance, intention to quit one's job and job searching has been tied to job satisfaction. Studies have shown that dissatisfied employees are more likely than satisfied employees to be thinking about quitting their job and engaging in job searching behaviours (Pepe, 2010). The spillover hypothesis predicts a positive correlation in that satisfaction at work will affect satisfaction in other areas of life (Spector, 2008). Job satisfaction has been shown to relate strongly to life satisfaction (Rain, Lane, & Steiner, 1991), affective commitment (Cooper-Hakim & Viswesvaran, 2005), and careerist attitudes (Feldman & Weitz, 1991), findings which were replicated in this study. Research has also found that intention to quit one's job is negatively related to all three components of commitment, with affective commitment showing the strongest relationship (Cooper-Hakim & Viswesvaran, 2005). These inter-correlations are relevant in the context of underemployment because they have a tendency to co-occur. If an individual experiences lower job satisfaction as a result of feelings of underemployment, they are also likely to experience lower life and career satisfaction, lower affective commitment, increased intention to quit and job searching.

Practical Implications

The results of this study have numerous practical implications. Because there has been very little research done on the effects of underemployment in New Zealand, this study provides some insight into how graduates in New Zealand are experiencing underemployment and what effects this might be having on them and the organizations. For instance, underemployment may be a source of job dissatisfaction, as the lack of opportunities for skill and qualification use could destroy motivation and perceptions regarding opportunities for further personal development inside the work situation. Moreover, perceived underemployment may reflect how the structure and evaluation of work produce dissatisfaction through lack of motivation and perceptions of inequity of rewards. As a result, employees who are unsatisfied in their work may exhibit lower productivity, poorer quality of work, increased turnover, and higher absenteeism (Spector, 2008) in order to reduce these feelings of dissatisfaction.

The result of stronger careerist attitudes (belief that one does not get ahead on merit alone) and lower life satisfaction among those individuals who were underemployed is logical given the significant relationship between underemployed and job satisfaction. Employees, who are working in a job where they are not recognised or rewarded for their performance, are likely to be more cynical about the relationship between hard work and success by thinking differently about methods for career advancement. Since their current employment arrangement is not meeting their expectations, these individuals may be more mobile and willing to seek career advancement in a different organization in order to try and get ahead. This can be costly for an organization as it would incur the costs of replacing these employees. In addition, because life satisfaction is considered to be an indicator of overall happiness and emotional well-being, an individual who is dissatisfied with their work as a result of being underemployed, will be dissatisfied with their lives. Reduced life satisfaction has been reported to lead to problems with an individual's overall mental health, including lower self-esteem, increased depression, and decreased feelings of control (Feldman, 1996).

The potential for decreased organizational commitment is another important implication verified through this research. Given that an employee with

strong affective commitment feels emotional attachment to their organization, it follows that he or she will have a greater desire to contribute meaningfully to the organization (Meyer & Allen, 1997). An employee with reduced affective commitment as a result of feeling underemployed could potentially lead to disengagement or psychological withdrawal from the job. This can affect the attention that is paid to job tasks, an employee's motivation on the job, the manner in which they conduct themselves at work, and their level of absenteeism.

This may not however be the case for employees whose primary link to the organization is based on strong continuance commitment. These employees are likely to stay with the organization, not for reasons of emotional attachment, but because of recognition that the costs associated with leaving are just too high. There is no reason to expect that such employees will have a particularly strong desire to contribute to the organization. It is therefore possible that if commitment of this type is the sole basis for staying with the organization, it could create feelings of resentment or frustration that could potentially lead to inappropriate work behaviour.

Employers may be able to reduce or avoid the number of individuals' involuntary working in a part-time or temporary job by staffing these positions with individuals who find these work arrangements attractive. Professionals in reduced workloads by choice, for example, may exhibit high levels of performance and satisfaction (Lee, Hourquet, & MacDermid, 2002). Although increased flexibility and lower staffing costs may explain the increasing proportion of part-time and temporary jobs, organizations should consider the possibility that there may be hidden costs associated with such jobs, as some contingent workers may prefer more standard working arrangements, and experience negative job attitudes as a result.

However, recruitment strategies do not address the underlying problem of underemployment, that there are insufficient roles at higher levels for those with higher qualifications. In these circumstances, employers may need to change the nature of the work or a person's responsibilities by offering more job scope or the opportunity for job crafting. The concept of "job crafting" involves shaping the task boundaries of the job (either physically or cognitively), the relational

boundaries of the job, or both (Wrzesniewski & Dutton, 2001). Job crafters are individuals who actively compose both what their job is physically, by changing a job's task boundaries, what their job is cognitively, by changing the way they think about the relationships among job tasks, and what their job is relationally, by changing the interactions and relationships they have with others at work (Wrzesniewski & Dutton, 2001). In doing so, job crafters create different jobs for themselves, within the context of defined jobs, which shape both the meaning of the work and one's work identity. For example, a computing support person who helps employees with their web pages, in addition to regular job tasks, is changing the job as well as his or her relationship with others.

It is important to note that job crafting is a situated activity, in the sense that different situations enable or disable different levels and forms of crafting. Employers who are in situations where they can offer their employees the latitude to define and enact the job in a way which better suits them, will potentially reduce levels of underemployment in their organization, as highly qualified individuals may not feel as constrained in their ability to utilize their skills and qualifications. In addition, the perceived control and empowerment that can result from job crafting could be an effective way to deal with feelings of relative deprivation. According to Spreitzer (1995, 1996), when empowered, employees feel that they have the ability to determine work outcomes, feel competent to achieve their goals, and believe that they have an impact on the work environment. Empowerment signals to employees that the organization trusts their judgment and competence (Chen & Aryee, 2007; Rhoades & Eisenberger, 2002) which may convey to employees that they have high status within the organization. As a result, employees will find their job more fulfilling and be more motivated to perform at a higher level, reducing their job, career and life dissatisfaction, increasing their organizational commitment, and lowering intentions to quit and job searching.

Strengths and Limitations

The way in which underemployment was measured in this study is a strength of this research. While some researchers (e.g. Feldman, 1996; Maynard et al., 2006; Mckee-Ryan et al., 2009) believe both subjective and objective

indicators should be used to measure underemployment, it has been argued that subjective measures are a stronger indicator of underemployment due to the perceptual nature of the construct (Khan & Morrow, 1991). An individual who may appear to be underemployed on paper may not perceive themselves to be underemployed. It is therefore an individual's subjective response to underemployment that is likely to have the biggest impact on both the individual and the organization.

Despite the perceived strength of this study's design, there were still a number of limitations. Because all the variables were measured via self-report questionnaire completed by the individual at a single point in time, common method bias might be an alternative explanation for some of the findings. However, the fact that some relationships were not significant, argues against this. In addition, there is no way to check the honesty or seriousness of responses with self-report questionnaires and therefore the ability to draw conclusions about underemployment and job outcomes may be restricted.

The cross-sectional nature of this study is another limitation. With data collection at only one point in time, causality cannot be established between underemployment and the hypothesised outcome variables. Longitudinal research would allow more opportunity for establishing casual relationships. Underemployment was also measured solely from the employee's perspective. Understanding the employer's perspective would add to the understanding of the underemployment construct. It would enable a researcher to determine how an employer perceives underemployment and how they possibly react to situations where they have employees feeling underemployed in their jobs.

Another limitation of this study was that the life satisfaction measure utilized the wrong response scale and therefore did not fit the item content. The correct scale should have ranged from (1) 'strongly disagree' to (7) 'strongly agree', rather than (1) 'very dissatisfied' to (7) 'very satisfied'. Therefore there may have been some misunderstanding in the meaning of the question and how to answer it appropriately, giving an inaccurate picture of this proposed relationship with underemployment. Despite this limitation however, the relationship between

underemployment and life satisfaction was still in accordance with the predicted hypothesis.

Future Research

As noted in chapter one, there are several conceptually distinct dimensions of underemployment. However, most of the previous research has used only univariate measures of underemployment – and those univariate measures have varied between the studies. The extent to which these five dimensions of underemployment are inter-correlated and the extent to which they can be scaled together needs to be further explored. Research on underemployment also appears to either utilize objective indicators (e.g. wages) or subjective indicators (e.g. self-report surveys) of the construct. It would be interesting for future research to investigate the overlap between the two and which of these measures relates more strongly to relative deprivation. Future research could also explore whether certain dimensions of underemployment are more important than others in predicting negative job attitudes and behaviours.

The results from this study revealed that the sample showed low occurrences of underemployment. Future research would benefit from comparing individuals who perceive themselves to be adequately employed to those who are underemployed, as this would help determine the extent of underemployment in New Zealand. In addition, it may also be relevant to explore the construct of underemployment across other sectors of the New Zealand labour market, including laid off workers who have been re-employed, middle managers, or service workers, as the consequences of underemployment may be very different to that of graduates. This could also extend to focusing on comparing the underemployment rates and outcomes from different ethnic backgrounds, gender and age. This would give a broader understanding of the commonalities and differences across experiences of underemployment.

Longitudinal research would be advantageous in measuring underemployment, as not only would it enable stronger relationships to be made and proved more opportunities to infer causality, but the longer term effects of underemployment could be explored. The negative spin off effects of underemployment may extend much longer than the period of underemployment

itself, and the longer those effects last, the more harmful they might be to other aspects of an individual's life. Longitudinal research would increase opportunities to examine an individual's adjustment to underemployment, that is, whether it improves or deteriorates over time, how their coping strategies change as a result of varying mood states, and the long term impact of underemployment on spouses, children, and friends of underemployed individuals.

Contrary to expectations, results from this study revealed a positive relationship between underemployment and continuance commitment, indicating graduates who are underemployed may still choose to stay with the organization because they perceive the costs to be too high to leave. Future research is needed in order to determine if there is a consistent link between underemployment and continuance commitment and, if so, in what direction.

The results of this research revealed that relative deprivation did in many cases mediate the relationship between the various underemployment measures and the proposed job outcomes. However, more in-depth research into this theoretical perspective, in the New Zealand context, is needed in order to gain a better understanding of the underlying mechanisms of how relative deprivation influences feelings of underemployment and to what degree. Possible avenues could include: whom underemployed workers will chose as referent others, the degree of relative deprivation underemployed workers are likely to experience in relation to those who do not feel underemployed, and the circumstances that ameliorate/exacerbate the amount of relative deprivation experienced.

Conclusions

The major propositions of this study were supported, and the findings indicated that graduates who perceived themselves to be underemployed reported lower job satisfaction, stronger careerists attitudes, lower life satisfaction, lower affective commitment, increased intention to quit and increased job searching behaviour. In addition, the results of this study revealed that relative deprivation was an important explanatory mechanism in understanding the effects of underemployment, mediating twenty three of the thirty five relationships that were tested. This research was important in understanding the underemployment experiences of graduates who are living and working in New Zealand. However,

future research is needed to determine the full extent of underemployment among graduates in New Zealand and whether these experiences are similar to other groups (e.g. laid off workers, middle manager, service workers) in the labour market.

REFERENCES

- Adams, J. S. (1976). Equity theory revisited: Comments and annotated bibliography. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 9, pp. 43-90). New York, NY: Academic Press.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173-1182.
- Baruch, Y. (2004). Transforming careers: From linear to multidirectional career paths. Organizational and individual perspectives. *Career Development International*, *9*(1), 58-73.
- Blau, G. (1993). Further exploring the relationship between job search and voluntary individual turnover. *Personnel Psychology*, *46*(2), 313-330.
- Bolino, M. C., & Feldman, D. C. (2000). The antecedents and consequences of underemployment among expatriates. *Journal of Organizational Behavior*, *21*(8), 889-911.
- Borgen, W. A., Amundson, N. E., & Harder, H. G. (1988). The Experience of underemployment. *Journal of Employment Counseling*, *24*, 149-159.
- Bozeman, D. P., & Perrewe, P. L. (2001). The effect of item content overlap on organizational commitment questionnaire-turnover cognitions relationships. *Journal of Applied Psychology*, *86*(1), 161-173.
- Burris, B. H. (1983a). *No room at the top: Underemployment and alienation in the corporation*. New York, NY: Praeger Press.
- Burris, B. H. (1983b). The human effects of underemployment. *Social Problems*, *31*(1), 95-110.
- Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1983). Assessing the attitudes and perceptions of organizational members. In S. Seashore, E. Lawler, P. Mirvis & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures and practices*. New York, NY: John Wiley.
- Chen, Z. X., & Aryee, S. (2007). Delegation and employee work outcomes: An examination of the cultural context mediating processes in china. *Academy of Management Journal*, *50*, 226-238.
- Cooper-Hakim, A., & Viswesvaran, C. (2005). The construct of work commitment: Testing an integrative framework. *Psychological Bulletin*, *131*, 241-259.
- Coulon, A. (2002). Underemployment amongst New Zealand graduates: Reflections from the live experience. *New Zealand Journal of Industrial Relations*, *27*(3), 283-297.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-Worth. *Psychological Review*, *108*(3), 593-623.
- Crosby, F. (1976). A model of egoistical relative deprivation. *Psychological Review*, *83*(2), 85-113.
- Crosby, F. (1984). Relative deprivation in organizational settings. *Research in Organizational Behavior*, *6*, 51-93.
- Department of Labour. ((n. d.)). Employment and unemployment: September 2010 quarter. Retrieved from www.dol.govt.nz/lmr/lma-hlfs.asp

- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Doherty, N., Viney, C., & Adamson, S. (1997). Rhetoric or reality: Shifts in graduate career management? *Career Development International*, 2(4), 173-179.
- Feather, N. T., & O'Brian, G. E. (1986a). A longitudinal analysis of the effects of different patterns of employment and unemployment on school-leavers. *British Journal of Psychology*, 77, 459-479.
- Feather, N. T., & O'Brian, G. E. (1986b). A longitudinal analysis of the effects of employment, different patterns of employment, and unemployment on school-leavers. *British Journal of Psychology*, 77, 459-479.
- Feldman, D. C. (1996). The nature, antecedents and consequences of underemployment. *Journal of Management*, 22(3), 385-407.
- Feldman, D. C., & Doeringhaus, H. I. (1992). Patterns of part-time employment. *Journal of Vocational Behavior*, 41, 282-294.
- Feldman, D. C., Doeringhaus, H. I., & Turnley, W. H. (1994). Managing temporary workers: A permanent HRM challenge. *Organizational Dynamics*, 23, 49-63.
- Feldman, D. C., & Leana, C. R. (2000). What ever happened to laid-off executives? A study of reemployment challenges after downsizing. *Organizational Dynamics*, 29(1), 64-75.
- Feldman, D. C., Leana, C. R., & Bolino, M. C. (2002). Underemployment and relative deprivation among re-employed executives. *Journal of Occupational and Organizational Psychology*, 75, 453-471.
- Feldman, D. C., Leana, C. R., & Turnley, W. H. (1997). A relative deprivation approach to understanding underemployment. *Trends in Organizational Behaviour*, 4, 43-60.
- Feldman, D. C., Leana, C. R., & Turnley, W. H. (1997). A relative deprivation approach to understanding underemployment. *Trends in Organizational Behaviour*, 4, 43-60.
- Feldman, D. C., & Turnley, W. H. (1995). Underemployment among recent business college graduates. *Journal of Organizational Behavior*, 16, 691-706.
- Feldman, D. C., & Weitz, B. A. (1991). From the invisible hand to the gladhand: understanding a careerist orientation to work. *Human Resource Management*, 30(2), 237-257.
- Fields, D. L. (2002). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis*. London, England: Sage Publications.
- Flynn, R. J. (1993). Effects of unemployment on depressive affect. In P. Cappeliez & R. J. Flynn (Eds.), *Depression and the social environment: Research and Intervention with neglected populations* (pp. 195-217). Montreal, Canada: McGill-Queen's University Press.
- Hersch, J. (1995). Optimal 'mismatch' and promotions. *Economic Inquiry*, 33(4), 611-624.
- Johnson, G. J., & Johnson, W. R. (2000a). Perceived overqualification, positive and negative affectivity, and satisfaction with work. *Journal of Social Behavior and Personality*, 15(2), 167-184.
- Johnson, G. J., & Johnson, W. R. (2000b). Perceived overqualification and dimensions of job satisfaction: A longitudinal analysis. *I34*, 5(537-555).

- Johnson, W. R., Morrow, P. C., & Johnson, G. J. (2002). An evaluation of a perceived overqualification scale across work settings *The Journal of Psychology*, *136*(4), 425-441.
- Kasl, S. V., Rodriguez, E., & Lasch, K. E. (1998). The impact of unemployment on health and well-being. In B. P. Dohrenwend (Ed.), *Adversity, stress, and psychopathology* (pp. 111-131). London, England: Oxford University Press.
- Kelleberg, A. L., & Sorenson, A. B. (1973). The measurement of the effects of overtraining on job attitudes. *Sociological Methods and Research*, *2*(2), 215-238.
- Khan, L. J., & Morrow, P. C. (1991). Objective and subjective underemployment relationships to job satisfaction. *Journal of Business Research*, *22*, 211-218.
- Kornhauser, A. W. (1965). *Mental health of the industrial worker: a detriot study*. New York, NY: John Wiley & Sons Inc.
- Leana, C. R., & Feldman, D. C. (1995). Finding new jobs after a plant closing: Antecedents and outcomes of the occurrence and quality of reemployment. *Human Relations*, *48*(12), 1381-1401.
- Lee, M. D., Hourquet, P., & MacDermid, S. M. (2002). Reduced-load work arrangements: The changing nature of professional and managerial work. In C. L. Cooper & R. J. Burke (Eds.), *The new world of work: Challenges and opportunities* (pp. 137-156). Oxford, England: Blackwell Publishers.
- Martin, J. (1981). Relative deprivation: A theory of distributive injustice for an era of shrinking resources. *Research in Organizational Behavior*, *3*, 53-107.
- Maynard, D. C., Joseph, T. A., & Maynard, A. M. (2006). Underemployment, job attitudes, and turnover intentions. *Journal of Organizational Behavior*, *27*, 509-536.
- Mckee-Ryan, F. M., Virick, M., Prussia, G. E., Harvey, J., & Lilly, J. D. (2009). Life after the layoff: Getting a job worth keeping. *Journal of Organizational Behavior*, *30*, 561-580.
- Meyer, J. P., & Allen, N. J. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, *63*, 1-18.
- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, *1*(1), 61-89.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage Publications.
- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*(4), 538-551.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, *61*, 20-52.
- Mottaz, C. J. (1986). An analysis of the relationship between education and organizational commitment in a variety of occupational groups. *Journal of Vocational Behavior*, *28*, 214-228.

- Nabi, G. R. (2003). Graduate employment and underemployment: opportunity for skill use and career experiences amongst recent business graduates. *Education and Training, 45*(7), 371-382.
- O'Brien, G. E. (1986). *Psychology of work and unemployment*. Chichester, England: John Wiley & Sons Ltd.
- Olsen, J. M., Roese, N. J., Meen, J., & Roberston, D. J. (1995). The preconditions and consequences of relative deprivation: Two field studies. *Journal of Applied Social Psychology, 25*(11), 944-964.
- Onyishi, I. E. (2010). The impact of contingent employment on organizational citizenship behaviour. *Ife Psychologia, 18*(2), 303-323.
- Pepe, M. (2010). The impact of extrinsic motivational dissatisfiers on employee level of job satisfaction and commitment resulting in the intent to turnover. *Journal of Business and Economics Research, 8*(9), 99-107.
- Prause, J., & Dooley, D. (1997). Effect of underemployment on school-leavers' self-esteem. *Journal of Adolescence, 20*, 243-260.
- Rain, J. S., Lane, I. M., & Steiner, D. D. (1991). A current look at the job satisfaction/life satisfaction relationship: Review and future considerations. *Human Relations, 44*, 287-305.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87*, 698-714.
- Robinson, S. L., Kraatz, M. S., & Rousseau, D. M. (1994). Changing obligations and the psychological contract: A longitudinal study. *Academy of Management Journal, 1*, 137-152.
- Rose, M. (2005). Do rising levels of qualification alter work ethic, work orientation and organizational commitment for the worse? Evidence from the UK, 1985-2001. *Journal of Education and Work, 18*, 131-164.
- Rosen, E. I. (1987). Job displacement among men and women. *The International Journal of Sociology and Social Policy, 7*, 31-42.
- Rousseau, D. M. (1990). New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *Journal of Organizational Behavior, 11*(5), 389-400.
- Saks, A. M., & Ashforth, B. E. (1997). A longitudinal investigation of the relationships between job information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology, 50*, 395-426.
- Sargent, J. (1986). An improving job market for college graduates: the 1986 update of projections to 1995. *Occupational Outlook Quarterly, 30*, 2-7.
- Solmon, L. C., Kent, L., Ochsner, N. L., & Hurwicz, M. (1981). *Underemployed Ph.D.'s*. Lexington, MA: D.C. Heath and Company.
- Spector, P. E. (2008). *Industrial and organizational behavior* (5th ed.). Hoboken, NJ: John Wiley & Sons Inc.
- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465.
- Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal, 39*, 483-504.
- Stack, S. (1982). 'Suicide in Detroit, 1975: Changes and continuities'. *Suicide and Life-Threatening Behavior, 12*, 67-83.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.

- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology, 46*, 259-293.
- Thorsteinson, T. J. (2003). Job attitudes of full and part-time employees: A meta-analytic review. *Journal of Occupational and Organizational Psychology, 76*, 151-177.
- Tipps, H. C., & Gorden, H. A. (1985). Inequality at work: Race, sex and underemployment. *Social Indicators Research, 16*, 35-49.
- Vaisey, S. (2006). Education and its discontents: Overqualification in America, 1972-2002. *Social Forces, 85*, 835-864.
- Vecchio, R. P., & Boatwright, K. J. (2002). Preferences for idealized styles of supervision. *Leadership Quarterly, 13*, 327-342.
- Wald, S. (2005). The impact of overqualification on job search. *International Journal of Manpower, 26*(2), 140-156.
- Winefield, A. H., & Tiggemann, M. (1989a). Job loss versus failure to find work as psychological stressors in the young unemployed. *Journal of Occupational Psychology, 62*, 79-85.
- Winefield, A. H., & Tiggemann, M. (1989b). Unemployment duration and affective well-being in the young. *Journal of Occupational Psychology, 76*, 424-431.
- Winefield, A. H., Tiggemann, M., & Goldney, R. D. (1991). A longitudinal study of the psychological effects of unemployment and unsatisfactory employment on young adults. *Journal of Applied Psychology, 76*(3), 424-431.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Journal, 26*(2), 179-201.
- Zvonkovic, A. M. (1988). Underemployment: Individual and marital adjustment to income loss. *Lifestyles: Family and Economic Issues, 9*(2), 161-178.

APPENDIX A

RESEARCH QUESTIONNAIRE

EARLY CAREER EXPERIENCES OF UNIVERSITY GRADUATES IN NEW ZEALAND

Information Sheet and Participants' Rights

My name is Kara Cockroft and I am undertaking a Master's degree at the University of Waikato. My Master's thesis research is looking at the early career experiences of university graduates in New Zealand. In particular, I am looking at the relationship that exists between the level of education attainment and the type of employment university graduates are in. My supervisors are Donald Cable and Professor Michael O'Driscoll. I may be contacted through telephone 027 632 3397, or on email at kbs5@waikato.ac.nz.

What will you be asked to do?

You will be asked for your views on a number of factors relating to the topic area. It will take you approximately 15 to 20 minutes to complete the questionnaire via the internet. Please complete the questionnaire within the next 2 weeks of receiving this email.

What can you expect of me?

- You may contact me at any time to discuss any aspect of the study.
- You may decline to participate or to refuse to answer any question(s).
- You provide information on the understanding that it is completely in confidence.
- Your name will not be recorded anywhere, hence no one will ever be able to link you to your completed questionnaire.
- You can receive a summary of the results of the study.

I will treat your responses with total confidentiality. No names will be recorded so that your identity can not be established. If I decide to publish any results these will only be in summary form.

Request for Summary of Research Results

If you wish to receive a summary of the results of this research please send an email to kbs5@waikato.ac.nz with the subject line: Copy of results – Early Career Experiences of University Graduates Questionnaire.

The summary results are planned to be available around March 2011.

If you finished your university studies in 2004 or later and have been working since then, please continue on with the questionnaire.

NB This questionnaire will be formatted for online completion

**EARLY CAREER EXPERIENCES OF UNIVERSITY GRADUATES
LIVING IN NEW ZEALAND QUESTIONNAIRE**

Thank you for choosing to participate in this online questionnaire. If you have completed your university studies in the last five years (finished 2004 or later), then you are invited to continue on with the questionnaire. For each of the following items, please tick the box that matches or is closest to your response. The survey should take you approximately 15 to 20 minutes to complete. Your time and effort is very much appreciated.

Section A – Your current employment

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

1. I am over-educated for this job
2. This job gives me a chance to do the things I do best
3. This job lets me use my abilities
4. I have more formal education than this job requires, that is, someone with less formal education could perform my job well
5. I feel overqualified for my current job
6. This job is less demanding compared with other jobs I have had
7. This job lets me use skills from my previous experience and training
8. In terms of skill utilization, my present job is not as good as it ought to be
9. I have not learned a great deal new as a result of this job
10. I can envision more challenging jobs than the one I have

11. This job gives me the chance to learn new skills

12. I feel like I have not learned very many new skills during this job

13. I feel underemployed in this job

Section B – Satisfaction with your job

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

14. All in all, I am satisfied with my job

15. In general, I don't like my job

16. In general, I like working here

Section C – Beliefs about the best way to advance your career

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

17. Who you know is more important in an organization than what you know.

18. It's hard to get ahead in an organization on sheer merit alone.

19. You can't count on organizations to look out for your own best career interests.

20. In terms of managing careers in organizations, it's each man/woman for himself/herself.

21. Looking good to your boss is more important in getting ahead than being good at your job.

22. In terms of getting ahead in an organization, looking and acting like a winner can be more instrumental than simply being very competent.

23. Loyalty to one's employer is unlikely to be rewarded.

Section D – Satisfaction with your life

1	2	3	4	5	6	7
Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Moderately Satisfied	Very Satisfied

- 24. In most ways my life is close to my ideal
- 25. The conditions of my life are excellent
- 26. I am satisfied with my life
- 27. So far I have got the important things I want in life
- 28. If I could live my life over, I would change almost nothing

Section E – Your feelings towards your organization

If you do not work for an organization, please move to the next section.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

- 29. I would be very happy to spend the rest of my career with this organization
- 30. I enjoy discussing my organization with people outside it
- 31. I really feel as if this organization's problems are my own
- 32. I think that I could easily become as attached to another organization as I am to this one
- 33. I do not feel like 'part of the family' at my organization
- 34. I do not feel 'emotionally attached' to this organization
- 35. This organization has a great deal of personal meaning for me
- 36. I do not feel a strong sense of belonging to my organization
- 37. I am not afraid of what might happen if I quit my job without having another one lined up.

38. It would be very hard for me to leave my organization right now, even if I wanted to.

39. Too much in my life would be disrupted if I decided I wanted to leave my organization now.

40. It wouldn't be too costly for me to leave my organization now.

41. Right now, staying with my organization is a matter of necessity as much as desire.

42. I feel that I have too few options to consider leaving this organization.

43. One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.

44. One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice — another organization may not match the overall benefits I have here.

Section F– Thoughts about leaving your current job

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

45. I will probably look for a new job in the near future

46. At the present time, I am actively searching for another job in a different organization

47. I do not intend to quit my job

48. It is unlikely that I will actively look for a different organization to work for in the next year

49. I am not thinking about quitting my job at the present time

Section G – Job search

Please indicate the frequency with which you carried out each activity within the last 6 months

1	2	3	4	5	6	7
Never (0 times)	Rarely (1 or 2 times)	Sometimes (3 to 4 times)	Occasionally (5 to 6 times)	Commonly (7 to 8 times)	Frequently (9 to 10 times)	Very Frequently (more than 10 times)

50. I have been on a job interview in the last three months

51. I continue to look through newspapers, journals, publications and the internet which might contain advertisements of jobs I might want to apply for.

52. I focus a lot of time and effort on job search activities

53. I spend a lot of time networking in order to find a new job

54. I already have some resumes circulating at other companies

Section H– Facts about your job

55. Is your job part-time or full-time?

Part-time Full-time

55a. If your job is part-time, would you prefer to be employed in a full time position

Yes No N/A

56. Is your job temporary or permanent?

Temporary Permanent

56a. If this job is temporary, would you prefer to be employed in a permanent position

Yes No N/A

57. How much do you feel you are being paid for your current job, as compared to others who have a similar qualification?

1	2	3	4	5	6	7
Much less	Somewhat less	A little less	About the same	A little more	Somewhat more	Much more

58. Would you say that you are currently employed in a field that is outside the area of your qualification (in other words, not directly related to your major or type of degree)?

Yes Somewhat No

59. Was it by voluntary choice that you accepted a job that was not directly related to your qualification?

Yes No N/A

60. Would you prefer to have a job that is more closely related to your qualification?

Yes No N/A

Section I – Job status

To what extent...

1	2	3	4	5
To no extent	A little	Some	Moderate	To a great extent

61. Would you like a job situation that is better in terms of salary?

62. Do you think you deserve a job situation that is better in terms of salary?

63. Would you like a job situation that is better in terms of job challenge?

64. Do you think you deserve a job situation that is better in terms of job challenge?
65. Would you like a job situation that is better in terms of job responsibility?
66. Do you think you deserve a job situation that is better in terms of job responsibility?
67. Would you like a job situation that is better in terms of advancement?
68. Do you think you deserve a job situation that is better in terms of advancement?
69. In general, do you want a better job situation than your current one?
70. In general, do you think you deserve a better job situation than your current one?

Demographics

71. Gender **Male/Female**
72. What age are you?
73. What is your ethnicity?

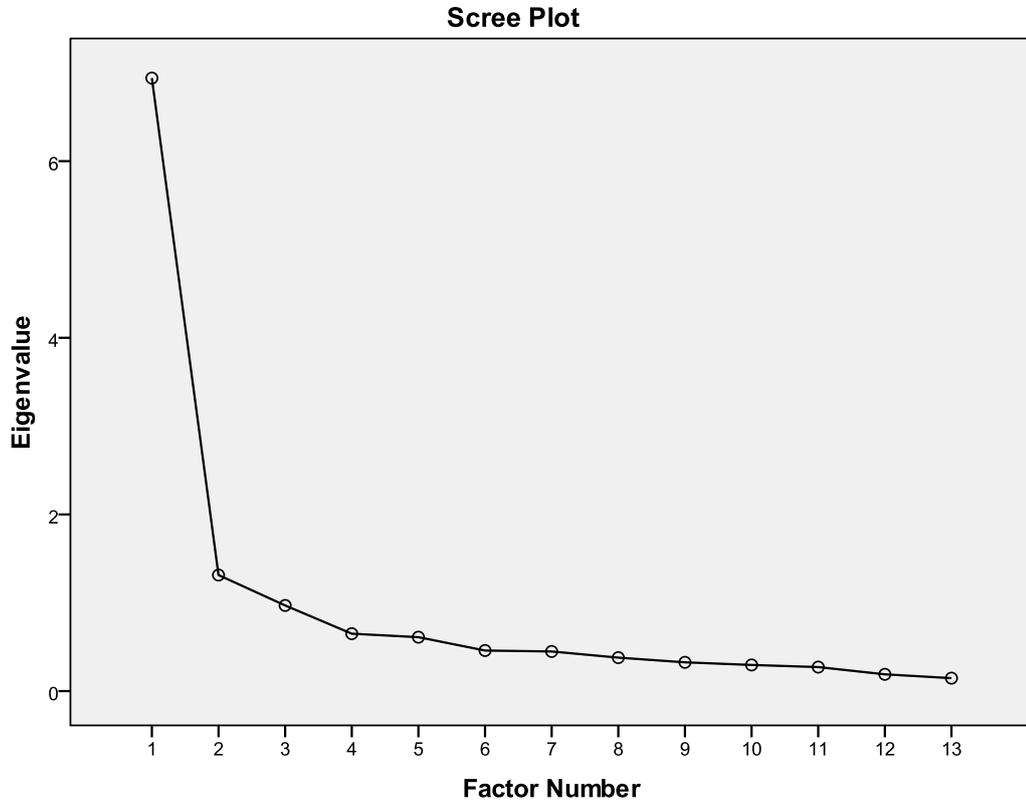
New Zealand/European	
Other European	
Maori	
Pacific Peoples	
Asian	
Other	

74. What qualification did you graduate with?

Bachelors degree	
Honours	
Post Graduate Diploma	
Masters Degree	
Doctorial Degree	
Other	

APPENDIX B

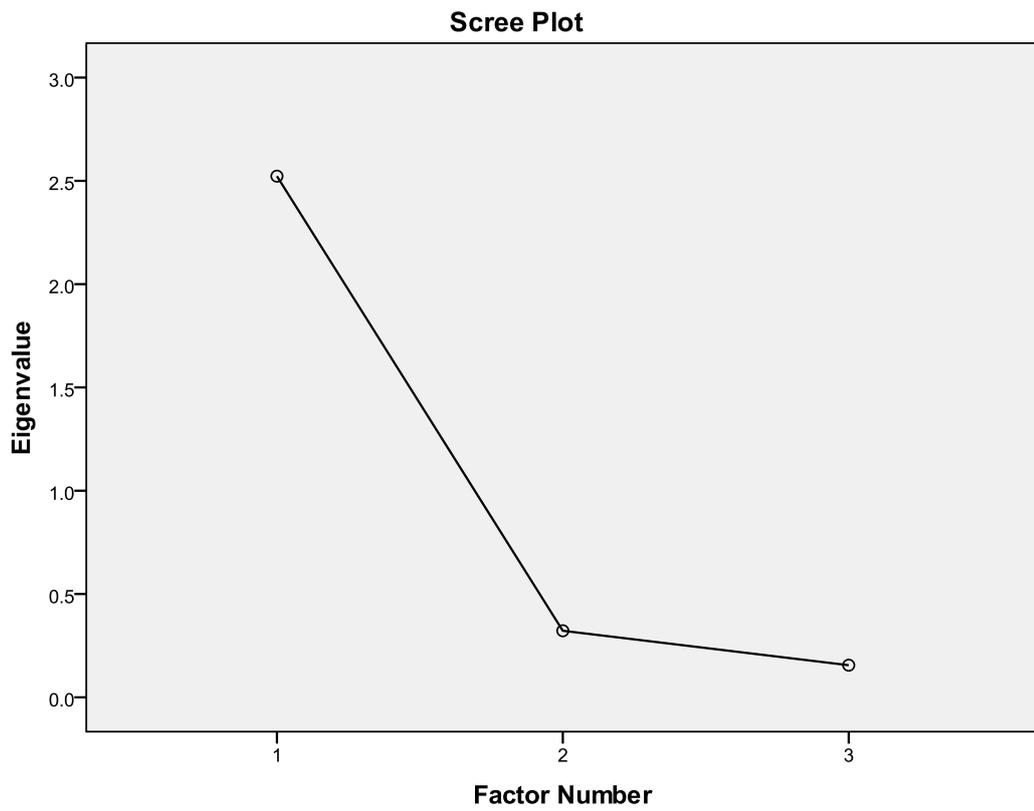
Scree Plot and Factor Matrix for Underemployment Skills



Factor Matrix^a

	Factor	
	1	2
Underemployment (Skill)	.765	-.218
Underemployment (Skill)	.680	.483
Underemployment (Skill)	.760	.494
Underemployment (Skill)	.692	-.331
Underemployment (Skill)	.835	-.336
Underemployment (Skill)	.706	-.158
Underemployment (Skill)	.346	.311
Underemployment (Skill)	.780	-.020
Underemployment (Skill)	.700	-.015
Underemployment (Skill)	.618	-.113
Underemployment (Skill)	.654	.177
Underemployment (Skill)	.738	.018
Underemployment (Skill)	.824	-.069

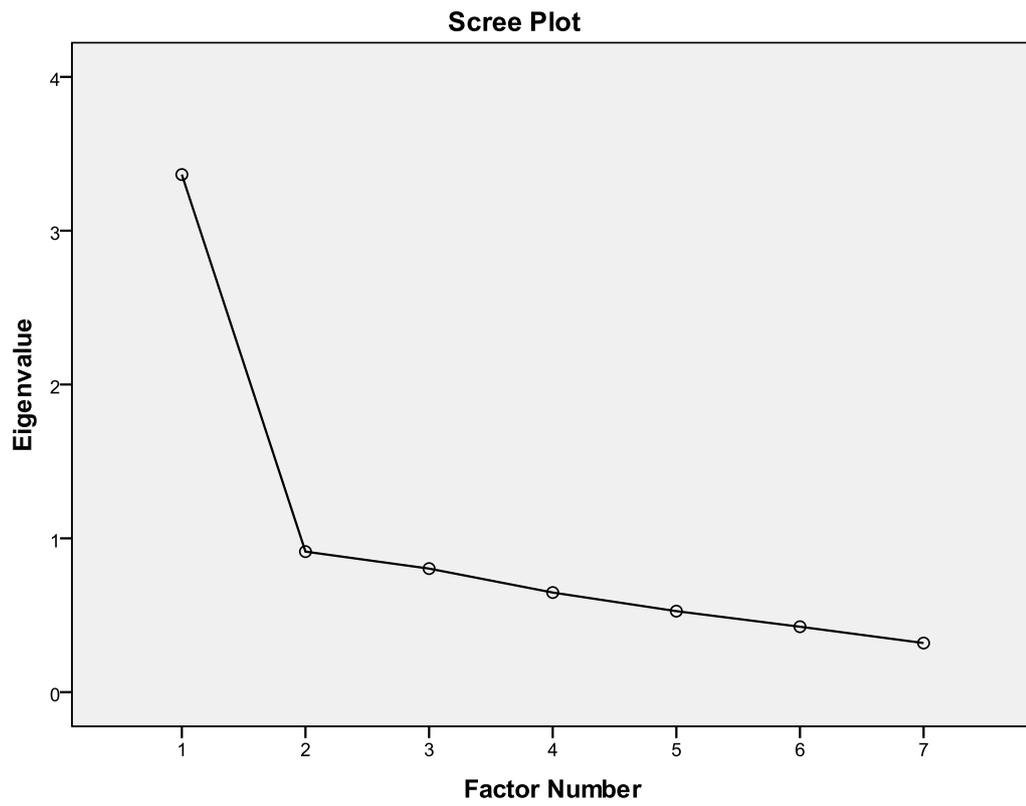
Scree Plot and Factor Matrix for Job Satisfaction



Factor Matrix^a

	Factor
	1
Job Satisfaction	.924
Job Satisfaction	.913
Job Satisfaction	.782

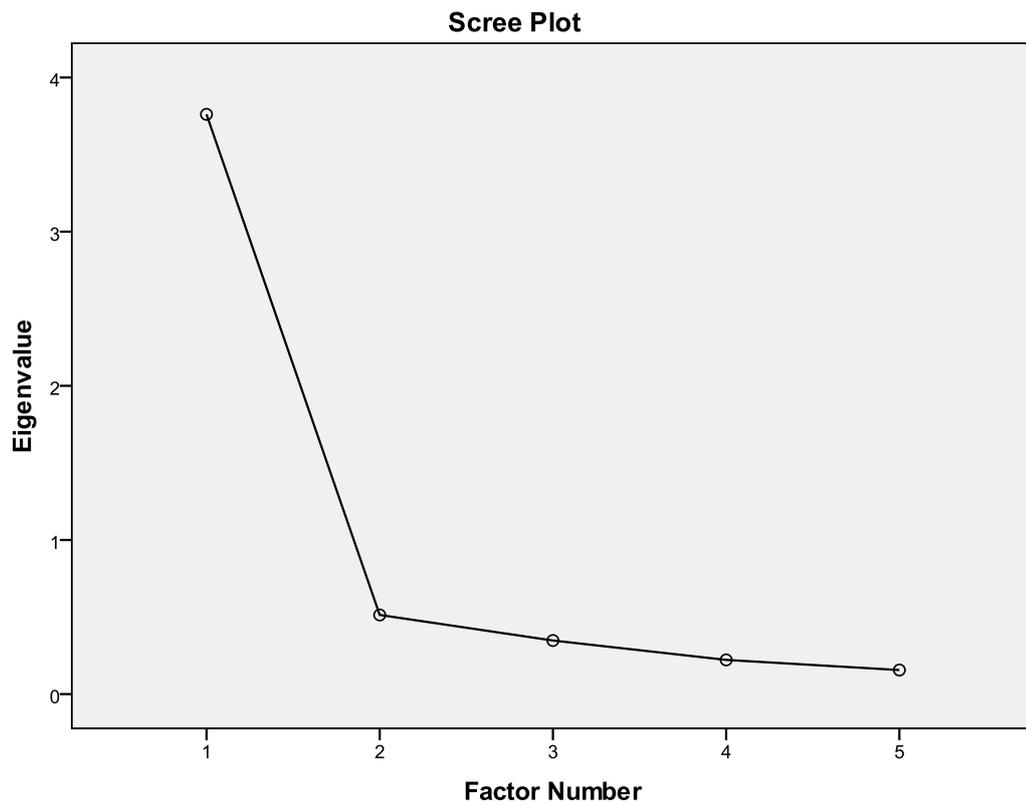
Scree Plot and Factor Matrix for Careerist Attitudes



Factor Matrix^a

	Factor
	1
Careerism	.498
Careerism	.598
Careerism	.756
Careerism	.760
Careerism	.563
Careerism	.652
Careerism	.549

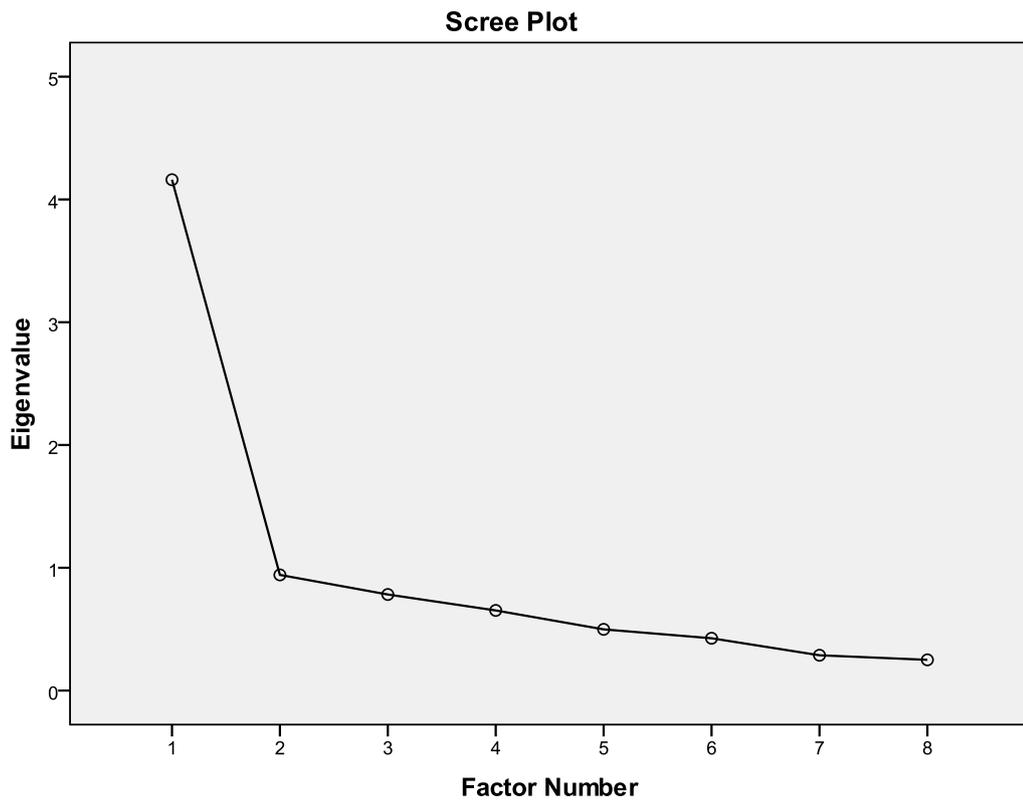
Scree Plot and Factor Matrix for Life Satisfaction



Factor Matrix^a

	Factor
	1
Life Satisfaction	.840
Life Satisfaction	.893
Life Satisfaction	.927
Life Satisfaction	.796
Life Satisfaction	.693

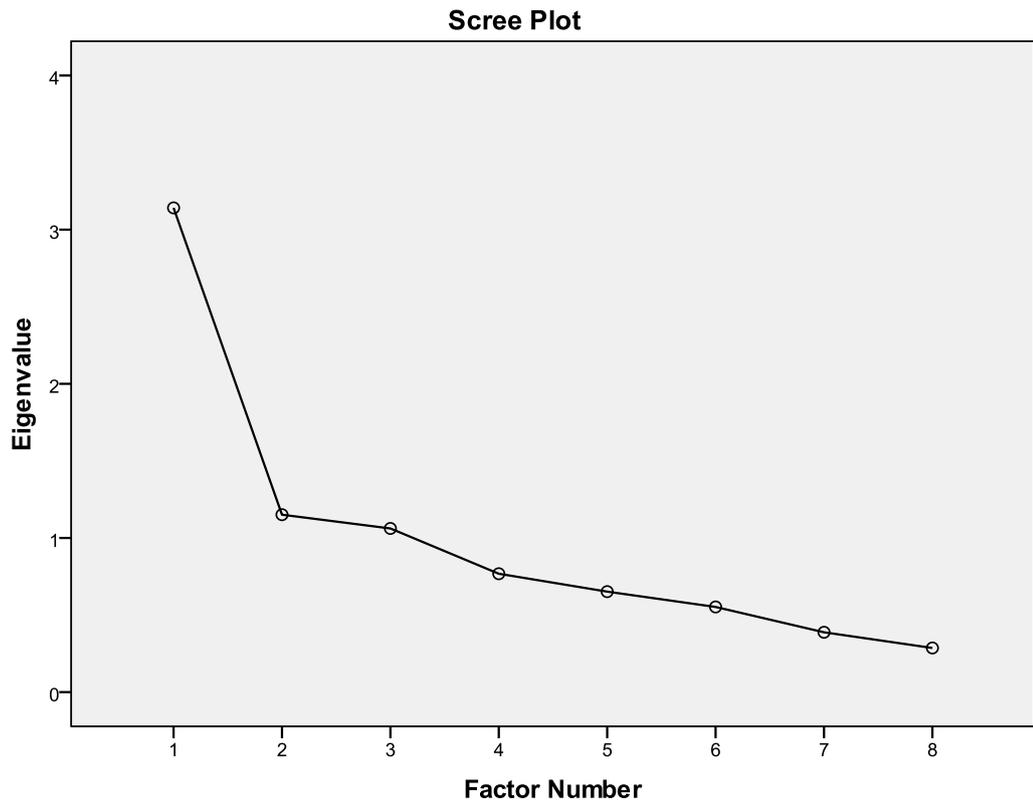
Scree Plot and Factor Matrix for Affective Commitment



Factor Matrix^a

	Factor
	1
Affective Commitment	.641
Affective Commitment	.636
Affective Commitment	.517
Affective Commitment	.306
Affective Commitment	.706
Affective Commitment	.847
Affective Commitment	.789
Affective Commitment	.831

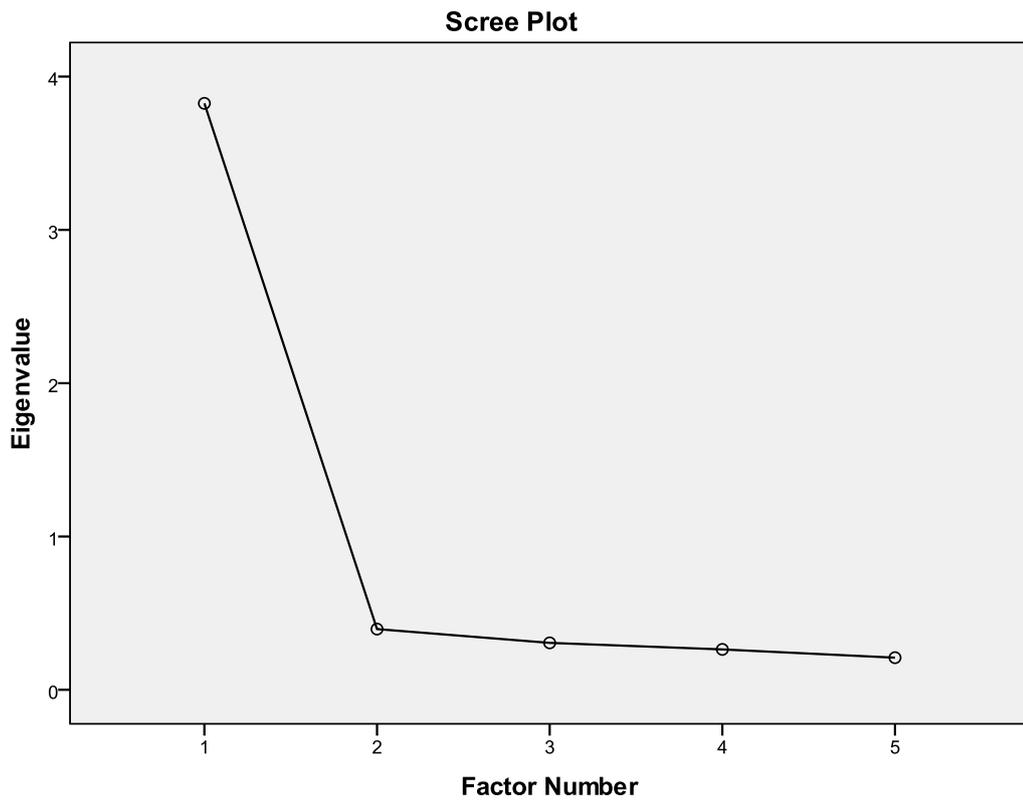
Scree Plot and Factor Matrix for Continuance Commitment



Factor Matrix^a

	Factor		
	1	2	3
Continuance Commitment	.433	-.054	.360
Continuance Commitment	.523	.349	-.065
Continuance Commitment	.657	.644	-.077
Continuance Commitment	.295	.098	.453
Continuance Commitment	.590	-.157	-.114
Continuance Commitment	.803	-.328	-.050
Continuance Commitment	.709	-.361	-.036
Continuance Commitment	.475	.004	-.152

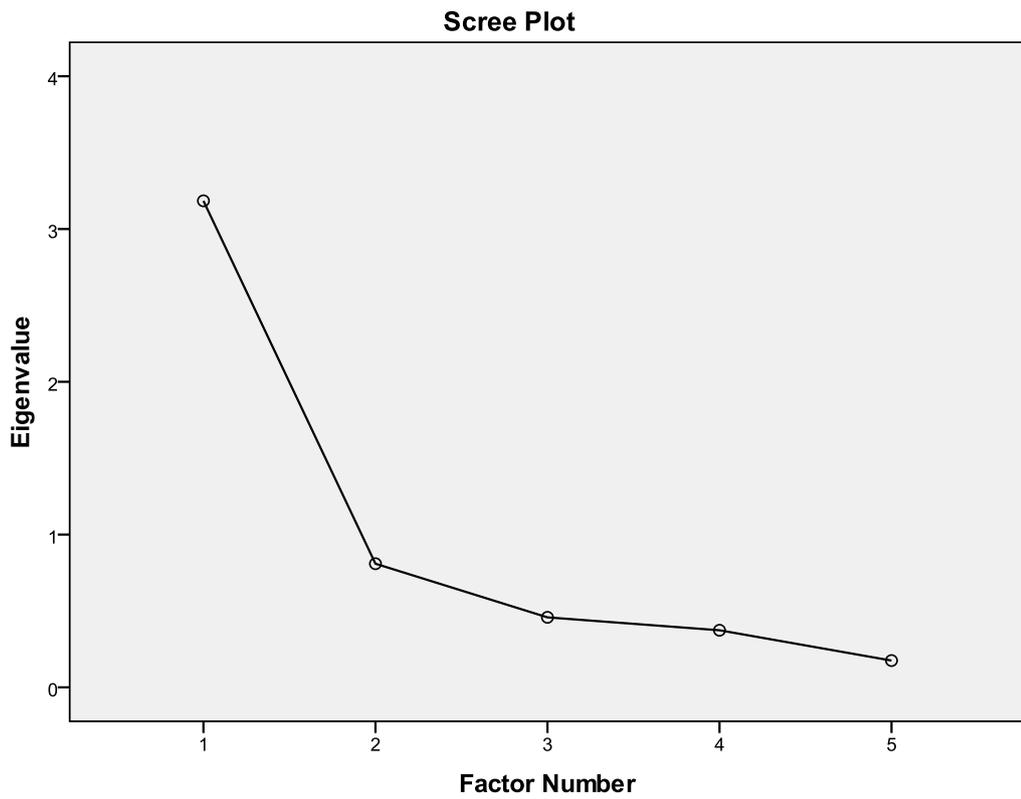
Scree Plot and Factor Matrix for Intention to Quit



Factor Matrix^a

	Factor
	1
Intention to Quit	.864
Intention to Quit	.838
Intention to Quit	.782
Intention to Quit	.845
Intention to Quit	.873

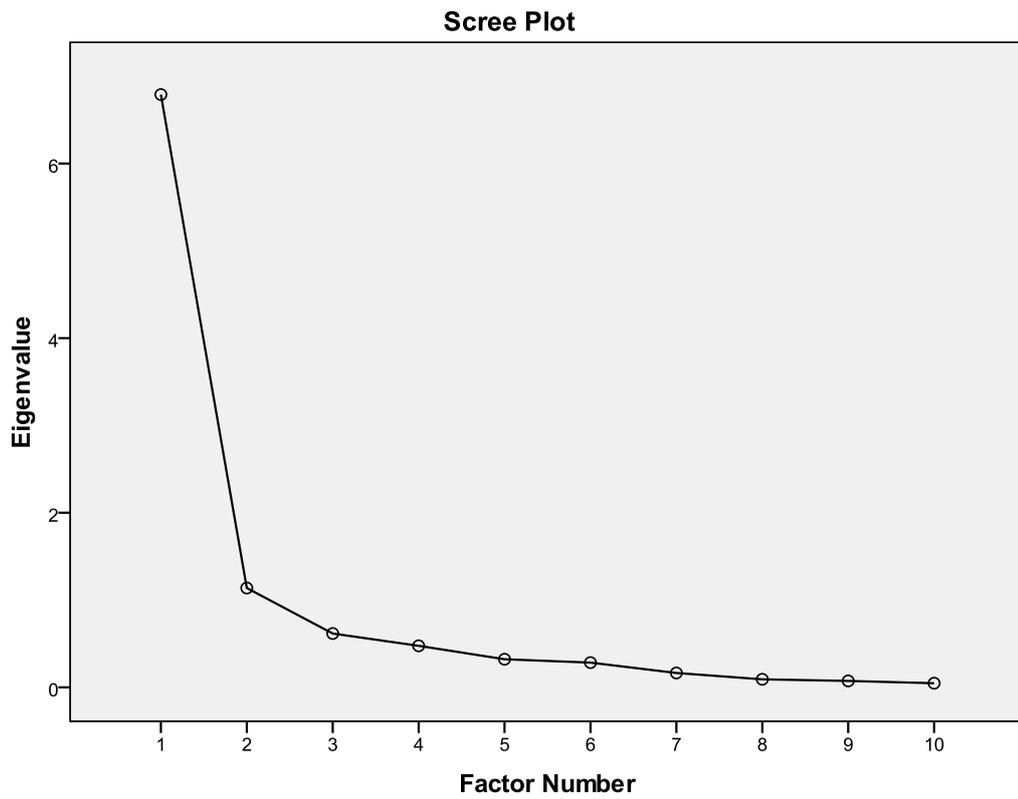
Scree Plot and Factor Matrix for Job Searching



Factor Matrix^a

	Factor
	1
Job Search	.455
Job Search	.754
Job Search	.926
Job Search	.752
Job Search	.783

Scree Plot and Factor Matrix for Relative Deprivation



Factor Matrix^a

	Factor	
	1	2
Relative Deprivation	.549	.613
Relative Deprivation	.666	.593
Relative Deprivation	.853	-.200
Relative Deprivation	.864	-.179
Relative Deprivation	.851	-.216
Relative Deprivation	.872	-.155
Relative Deprivation	.863	-.051
Relative Deprivation	.869	-.047
Relative Deprivation	.807	-.017
Relative Deprivation	.825	.014

APPENDIX C

Table 4: Mediating effects of relative deprivation on the relationship between underemployment and job satisfaction

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	JobSat	-.17	.008	-.66	-20.85*
3.	UE(Skills)	JobSat	-.14	.010	-.53	-13.47*
	RelDep		-.08	.015	-.21	-5.44*
Sobel						5.21*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	JobSat	-2.67	.775	-.14	-3.44*
3.	UE(InvPT)	JobSat	-1.01	.671	-.05	-1.50
	RelDep		-.21	.014	-.53	-14.65*
Sobel						3.81*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	JobSat	-.21	.55	-.02	-.39
3.	UE(InvTemp)	JobSat	-.04	.47	-.003	-.10
	RelDep		-.21	.01	-.54	-14.83*
Sobel						0.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	JobSat	-.61	.12	-.21	-5.16*
3.	UE(Pay)	JobSat	-.10	.11	-.03	-.89
	RelDep		-.21	.02	-.53	-13.88*
Sobel						7.25*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	JobSat	-4.88	.74	-.27	-6.56*
3.	UE(Mismatch)	JobSat	-2.87	.66	-.16	-4.35*
	RelDep		-.20	.01	-.51	-13.99*
Sobel						4.87*

* p < .01

Table 5: Mediating effects of relative deprivation on the relationship between underemployment and careerist attitudes

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	CareerAtt	.20	.017	.44	11.76*
3.	UE(Skills)	CareerAtt	.12	.021	.27	5.77*
	RelDep		.20	.031	.29	6.34*
Sobel						5.99*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	CareerAtt	1.67	1.33	.05	1.25
3.	UE(InvPT)	CareerAtt	-.76	1.21	-.02	-.63
	RelDep		.31	.025	.46	12.09*
Sobel						3.75*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	CareerAtt	.98	.935	.04	1.04
3.	UE(InvTemp)	CareerAtt	.71	.837	.03	.85
	RelDep		.31	.025	.46	12.14*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	CareerAtt	1.20	.198	.25	6.06*
3.	UE(Pay)	CareerAtt	.50	.194	.10	2.60*
	RelDep		.28	.027	.42	10.62*
Sobel						6.64*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	CareerAtt	3.94	1.31	.13	3.02*
3.	UE(Mismatch)	CareerAtt	.91	1.20	.03	.76
	RelDep		.30	.026	.45	11.67*
Sobel						4.72*

* p < .01

Table 6: Mediating effects of relative deprivation on the relationship between underemployment and life satisfaction

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	LifeSat	-.14	.016	-.34	-8.69*
3.	UE(Skills)	LifeSat	-.08	.020	-.20	-4.03*
	RelDep		-.14	.030	-.24	-4.77*
Sobel						4.62*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	LifeSat	-3.07	1.22	-.11	-2.51*
3.	UE(InvPT)	LifeSat	-1.38	1.17	-.05	-1.18
	RelDep		-.21	.025	-.35	-8.69*
Sobel						3.60*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	LifeSat	-1.17	.857	-.06	-1.36
3.	UE(InvTemp)	LifeSat	-1.06	.812	-.05	-1.31
	RelDep		-.22	.025	-.35	-8.77*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	LifeSat	-.99	.183	-.22	-5.39*
3.	UE(Pay)	LifeSat	-.50	.188	-.11	-2.67*
	RelDep		-.20	.026	-.32	-7.61*
Sobel						5.67*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	LifeSat	-6.20	1.18	-.22	-5.24*
3.	UE(Mismatch)	LifeSat	-4.19	1.15	-.15	-3.64*
	RelDep		-.20	.025	-.32	-8.07*
Sobel						4.37*

* p < .01

Table 7: Mediating effects of relative deprivation on the relationship between underemployment and affective commitment

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	AffCom	-.28	.021	-.49	-13.40*
3.	UE(Skills)	AffCom	-.20	.026	-.35	-7.67*
	RelDep		-.19	.038	-.23	-4.99*
Sobel						4.81*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	AffCom	-3.37	1.66	-.09	-2.03
3.	UE(InvPT)	AffCom	-.47	1.52	-.01	-.31
	RelDep		-.37	-.032	-.44	-11.45*
Sobel						3.73*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	AffCom	-2.10	1.16	-.08	-1.81
3.	UE(InvTemp)	AffCom	-1.64	1.05	-.06	-1.57
	RelDep		-.37	.032	-.44	-11.64*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	AffCom	-.84	.252	-.14	-3.31*
3.	UE(Pay)	AffCom	.09	.245	.01	.35
	RelDep		-.37	.034	-.45	-11.09*
Sobel						6.75*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	AffCom	-5.29	1.63	-.14	-3.25*
3.	UE(Mismatch)	AffCom	-1.64	1.51	-.04	-1.08
	RelDep		-.36	.032	-.43	-11.14*
Sobel						4.70*

* $p < .01$

Table 8: Mediating effects of relative deprivation on the relationship between underemployment and continuance commitment

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	ContCom	.06	.023	.11	2.71*
3.	UE(Skills)	ContCom	.02	.029	.04	.70
	RelDep		.10	.043	.12	2.26
Sobel						2.24
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	ContCom	-1.11	1.60	-.03	-.70
3.	UE(InvPT)	ContCom	-2.10	1.61	-.06	-1.30
	RelDep		.12	.034	.15	3.58*
Sobel						2.65*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	ContCom	.53	1.12	.02	.47
3.	UE(InvTemp)	ContCom	.41	1.13	.02	.36
	RelDep		.11	.034	.14	3.28*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	ContCom	.43	.244	.07	1.76
3.	UE(Pay)	ContCom	.16	.261	.03	.60
	RelDep		.11	.036	.13	3.00*
Sobel						2.83*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	ContCom	4.15	1.57	.11	2.64*
3.	UE(Mismatch)	ContCom	3.11	1.61	.08	1.94
	RelDep		.10	.034	.13	2.91*
Sobel						2.54*

* $p < .01$

Table 9: Mediating effects of relative deprivation on the relationship between underemployment and intention to quit

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	IntQuit	.28	.020	.50	13.81*
3.	UE(Skills)	IntQuit	.14	.024	.24	5.70*
	RelDep		.35	.035	.42	9.85*
Sobel						8.67*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	IntQuit	7.03	1.63	.18	4.32*
3.	UE(InvPT)	IntQuit	3.39	1.38	.09	2.46
	RelDep		.46	.029	.56	15.85*
Sobel						3.83*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	IntQuit	3.43	1.15	.13	2.98*
3.	UE(InvTemp)	IntQuit	2.95	.956	.11	3.09*
	RelDep		.47	.029	.57	16.22*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	IntQuit	1.10	.249	.18	4.43*
3.	UE(Pay)	IntQuit	-.10	.223	-.02	-.43
	RelDep		.48	.031	.58	15.57*
Sobel						7.47*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	IntQuit	7.00	1.60	.18	4.36*
3.	UE(Mismatch)	IntQuit	2.33	1.37	.06	1.70
	RelDep		.46	.029	.56	15.65*
Sobel						4.93*

* p < .01

Table 10: Mediating effects of relative deprivation on the relationship between underemployment and job searching

Equation	Predictor	Criterion	B	Std. Error	Beta	t
1.	UE(Skills)	RelDep	.41	.023	.61	18.28*
2.	UE(Skills)	JSearch	.18	.015	.45	11.99*
3.	UE(Skills)	JSearch	.09	.018	.22	4.85*
	RelDep		.22	.026	.38	8.32*
Sobel						7.57*
1.	UE(InvPT)	RelDep	7.82	1.98	.17	3.95*
2.	UE(InvPT)	JSearch	7.75	1.11	.28	6.98*
3.	UE(InvPT)	JSearch	5.60	.986	.20	5.68*
	RelDep		.28	.021	.48	13.27*
Sobel						3.79*
1.	UE(InvTemp)	RelDep	.79	1.41	.02	.56
2.	UE(InvTemp)	JSearch	4.17	.790	.22	5.28*
3.	UE(InvTemp)	JSearch	3.95	.685	.21	5.77*
	RelDep		.29	.021	.50	14.06*
Sobel						.56
1.	UE(Pay)	RelDep	2.47	.291	.34	8.51*
2.	UE(Pay)	JSearch	.79	.174	.19	4.54*
3.	UE(Pay)	JSearch	.10	.164	.02	.59
	RelDep		.29	.022	.50	12.98*
Sobel						7.12*
1.	UE(Mismatch)	RelDep	10.04	1.93	.22	5.19*
2.	UE(Mismatch)	JSearch	5.06	1.12	.19	4.50*
3.	UE(Mismatch)	JSearch	2.19	1.01	.08	2.18
	RelDep		.29	.022	.49	13.23*
Sobel						4.83*

* p < .01